2013

Historic Structure Report for St. Anne's Church

Adam Fisher

Historic Structure Report for St. Anne's Church

National Park Service

Historic Preservation Fund Project

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Architectural Drawings

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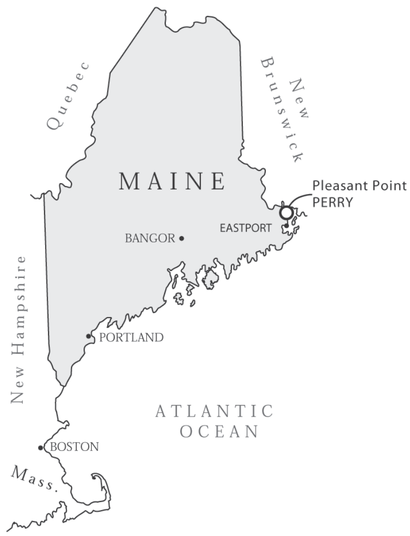
Note:
The architectural drawings throughout this publication have been reduced in size to fit the format of this report.

Full size architectural drawings and electronic version of this report are available online by scanning the following QR Codes

Architectural Drawings

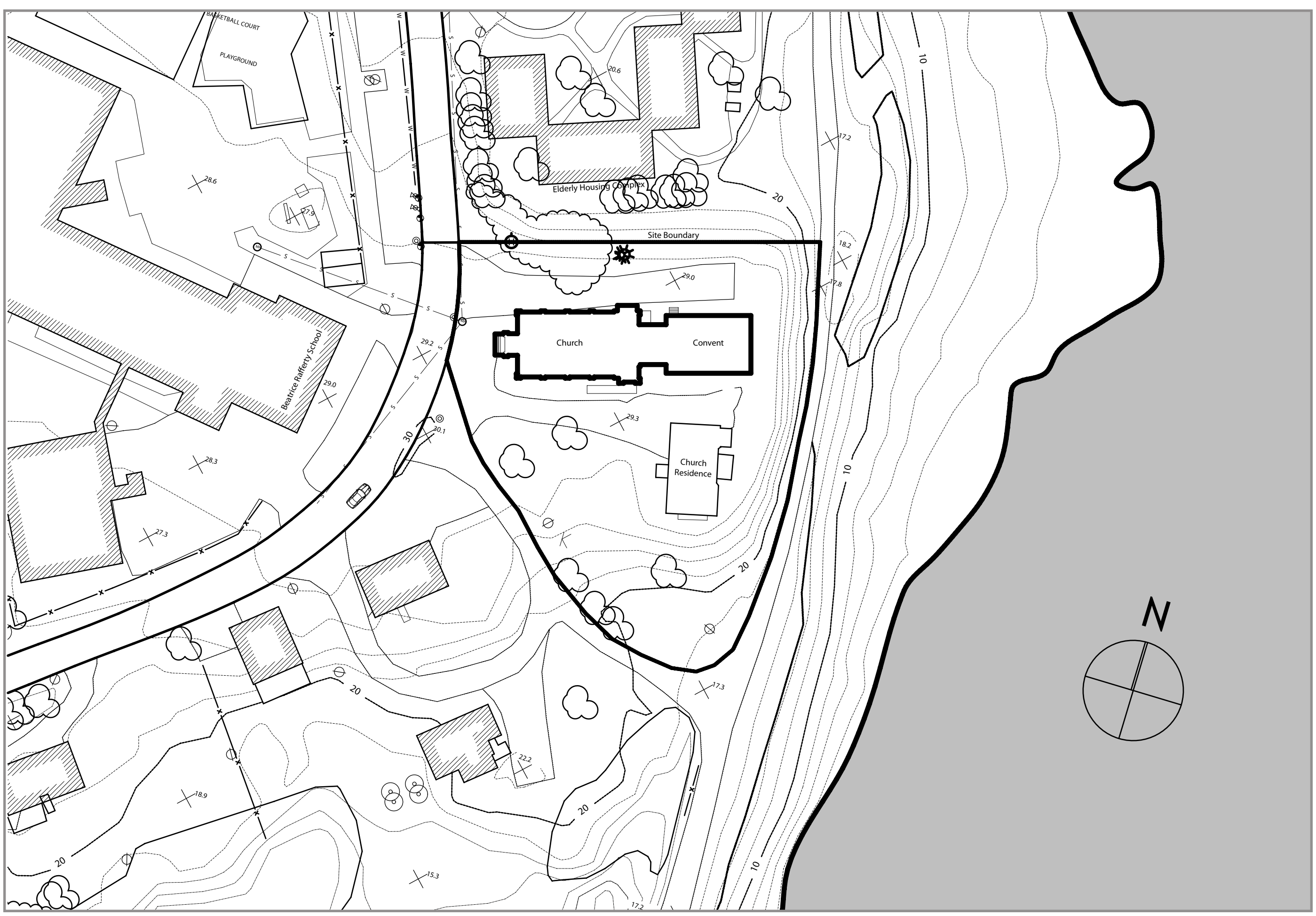
Report



Location in Maine
not to scale

Location in Region
not to scale

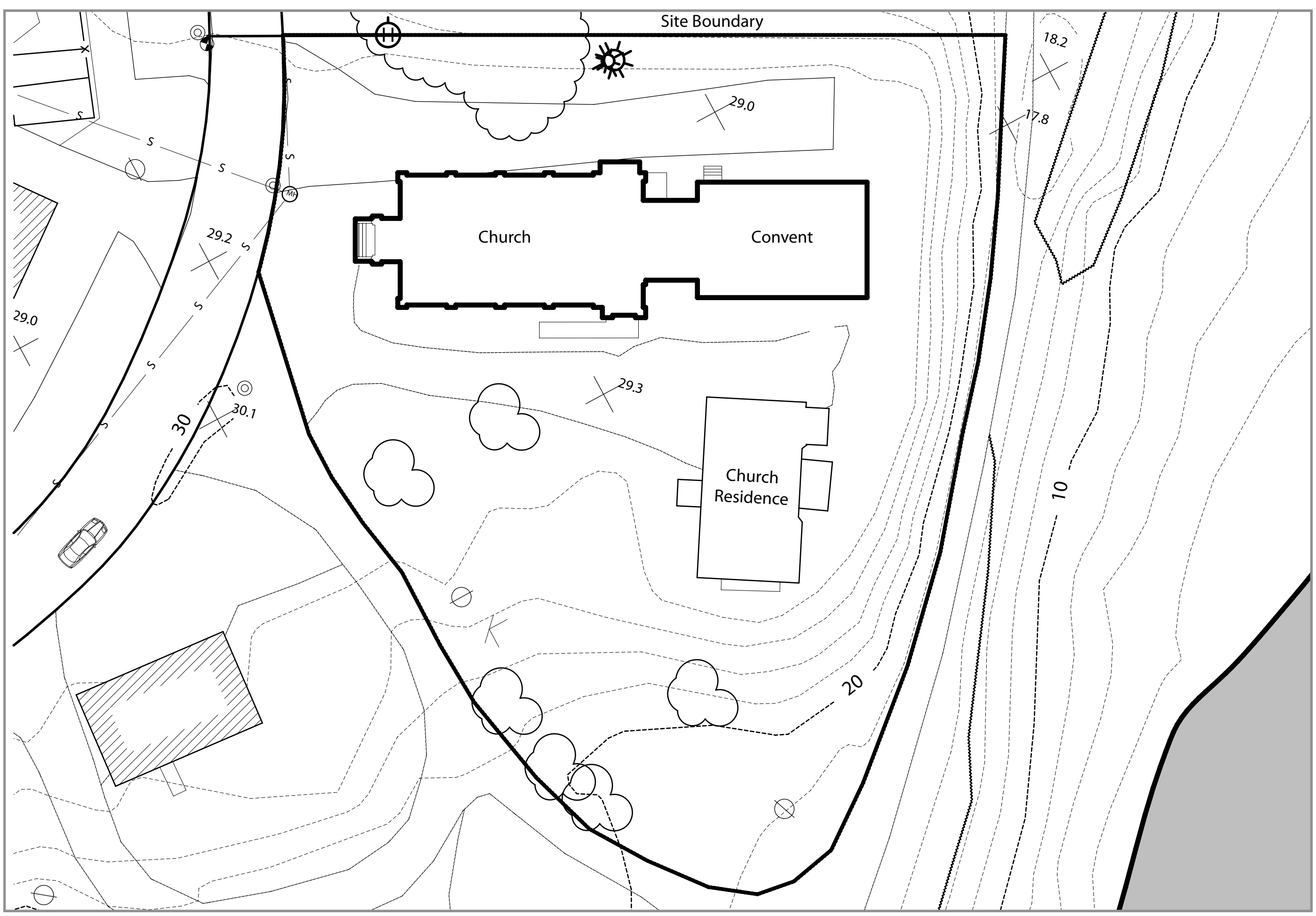
SITE, Environs scale : 1" = 100'



Location and Site of the Church

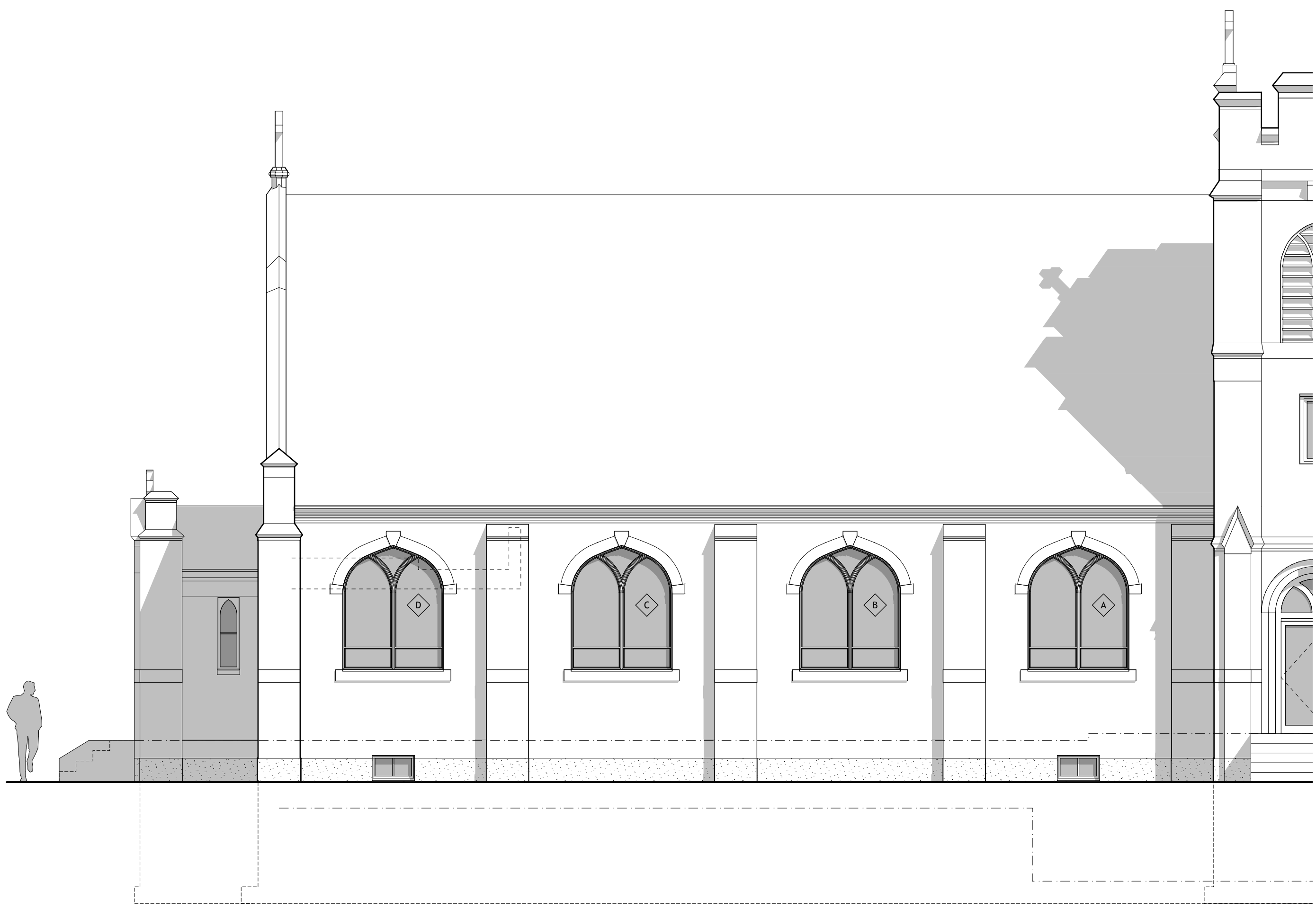
St. Anne's Church is located at the Southernmost tip of Maine along the Atlantic Ocean at the border of Maine and New Brunswick, Canada, at the convergence of the Gulf of Maine and the Bay of Fundy on Passamaquoddy Bay, Pleasant Point Indian Reservation (Sebayik) in Perry, Maine, Washington County.
Latitude 44° 57' 21" N / Longitude 67° 02' 22" W
UTM 19T 654618mE / 4979937mN

scale : 1" = 50' **SITE, Property Boundary**



SOUTH Elevation scale : 3/32" = 2'-0"

Match Line



WEST Elevation
scale : 3/32" = 1'-0"

Match Line

scale : 3/32" = 1'-0" **SOUTH Elevation**

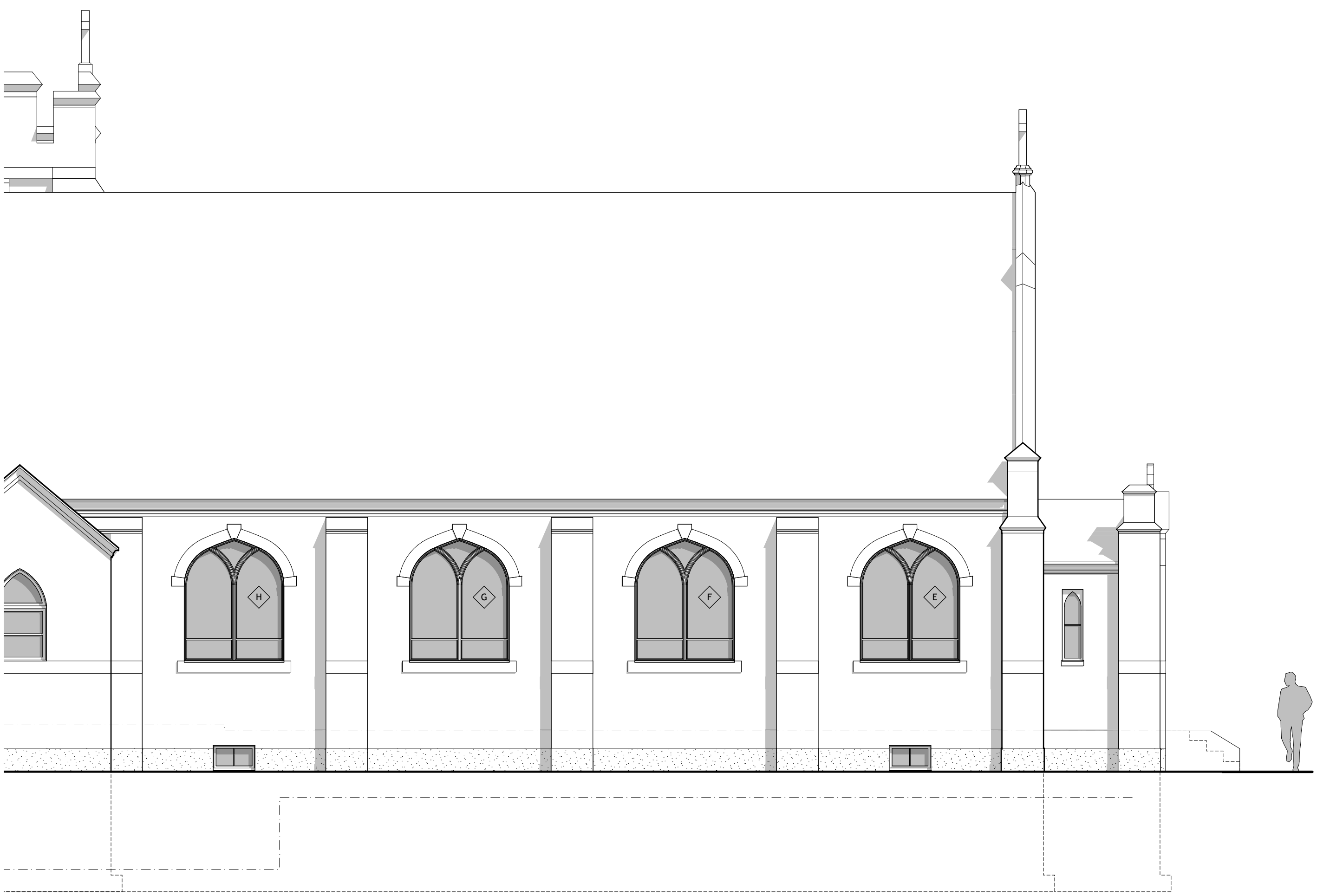
EAST Elevation
scale : 3/32″ = 1′-0″

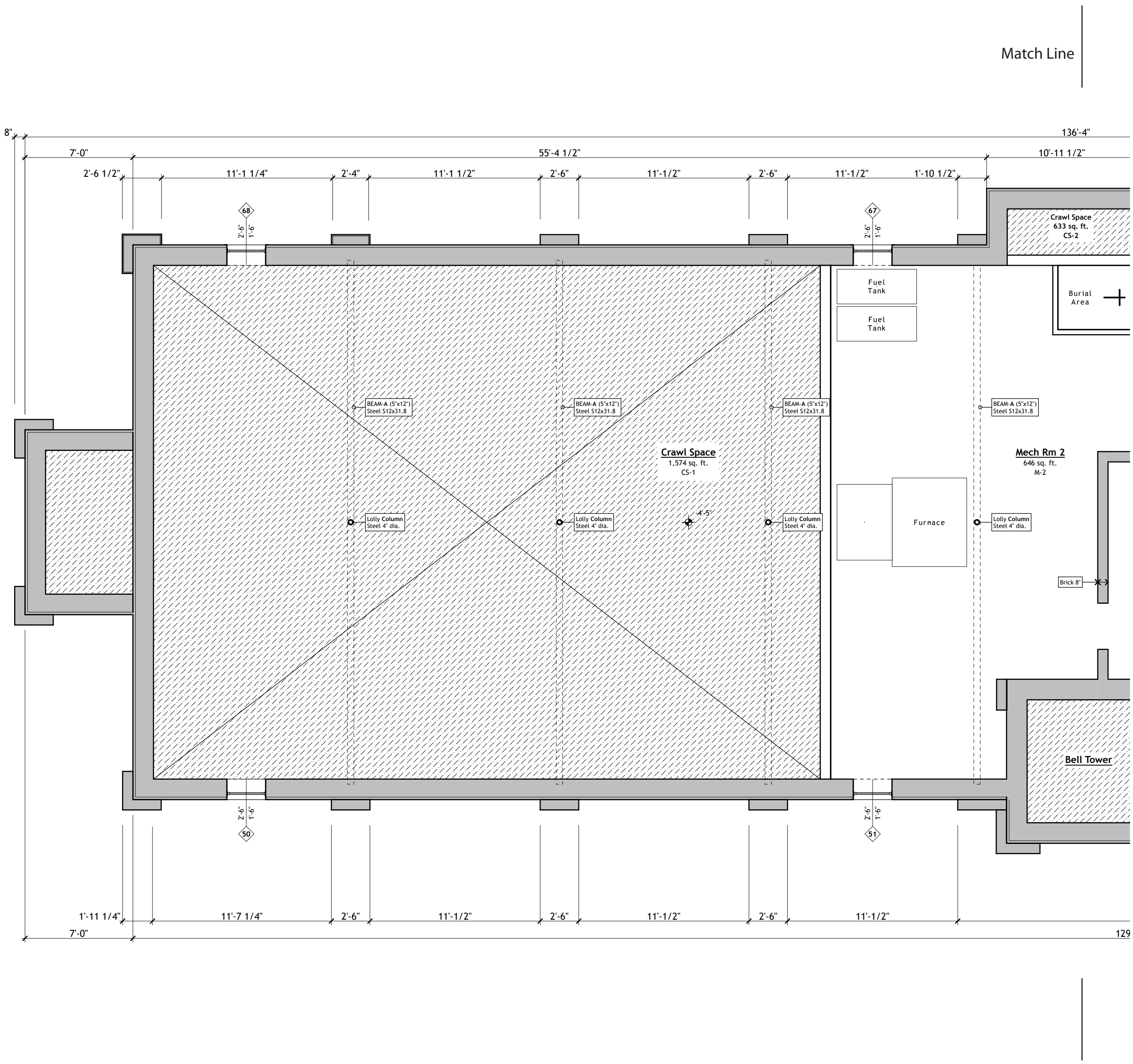
NORTH Elevation scale : 3/32″ = 1′-0″

scale : 3/32″ = 2′-0″

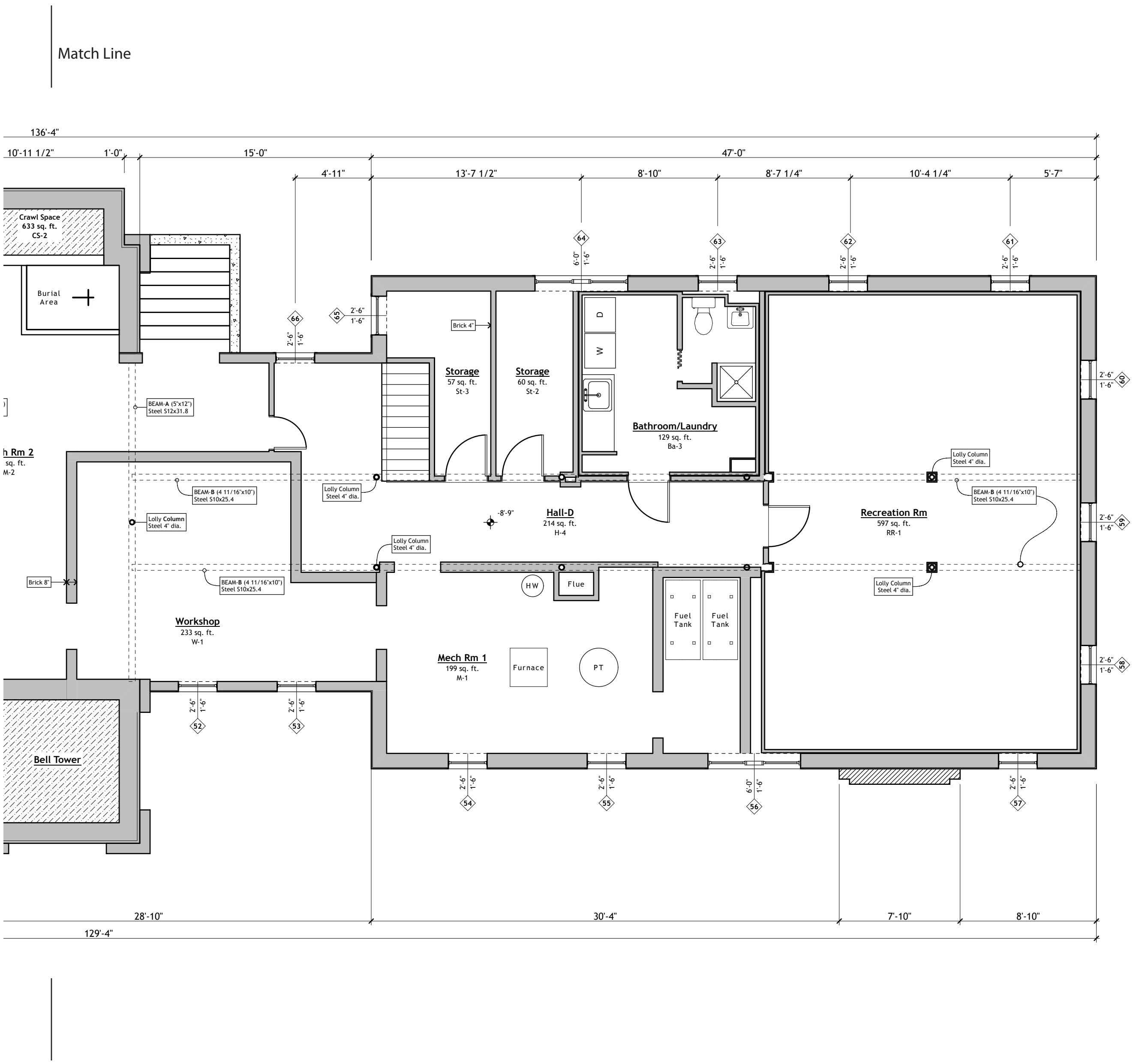
NORTH Elevation

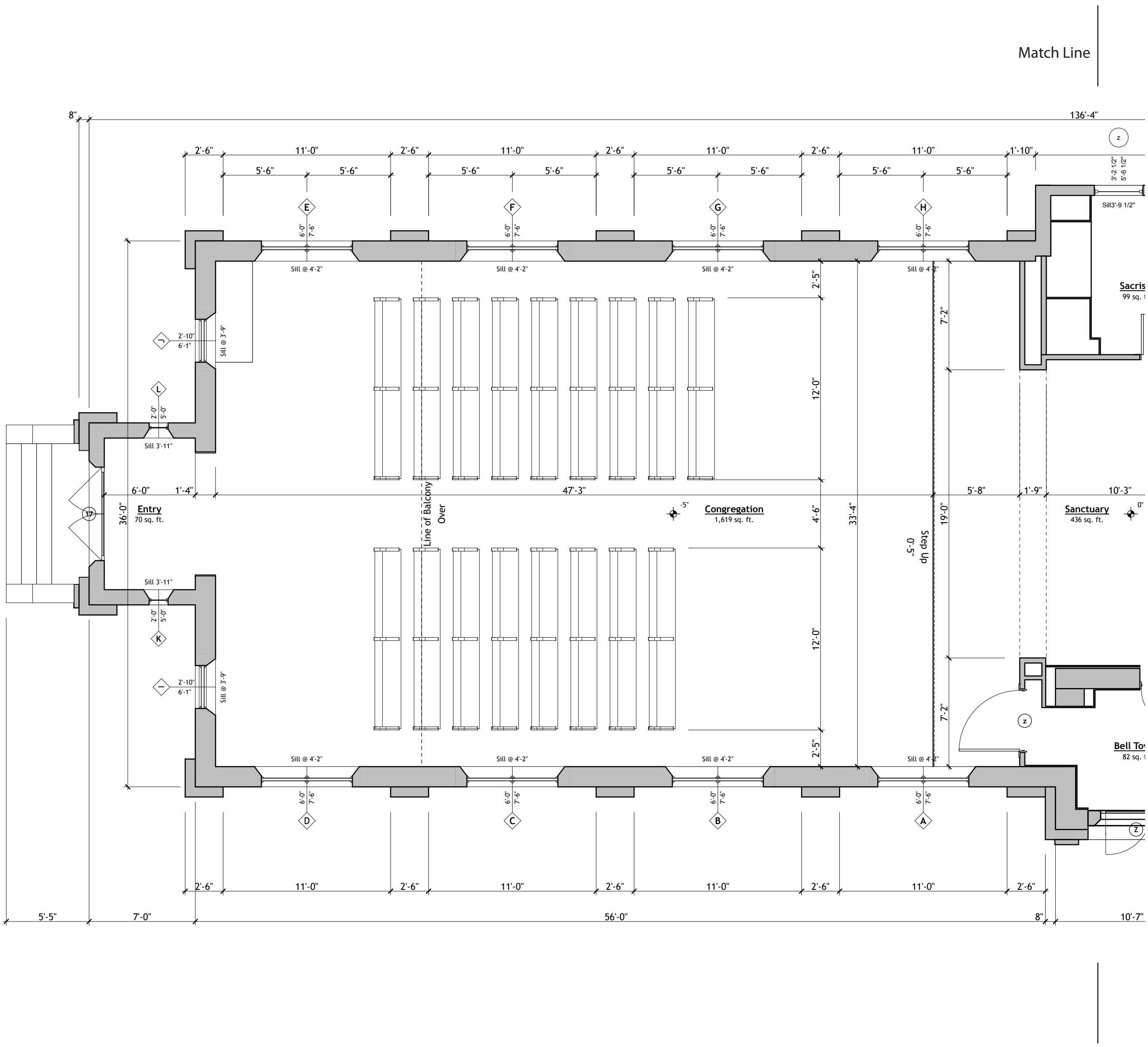
Match Line




Match Line
136'-4"
7'-0"
55'-4 1/2"
10'-11 1/2"
2'-6 1/2"
11'-1 1/4"
2'-4"
11'-1 1/2"
2'-6"
11'-1/2"
2'-6"
11'-1/2"
1'-10 1/2"
8"
Crawl Space
633 sq. ft.
CS-2
Fuel Tank
Fuel Tank
Burial Area
BEAM-A (5"x12") Steel S12x31.8
Crawl Space
1,574 sq. ft.
CS-1
Mech Rm 2
646 sq. ft.
M-2
Lolly Column Steel 4' dia.
Furnace
Brick 8"
Bell Tower
1'-11 1/4"
11'-7 1/4"
2'-6"
11'-1/2"
2'-6"
11'-1/2"
2'-6"
11'-1/2"
7'-0"

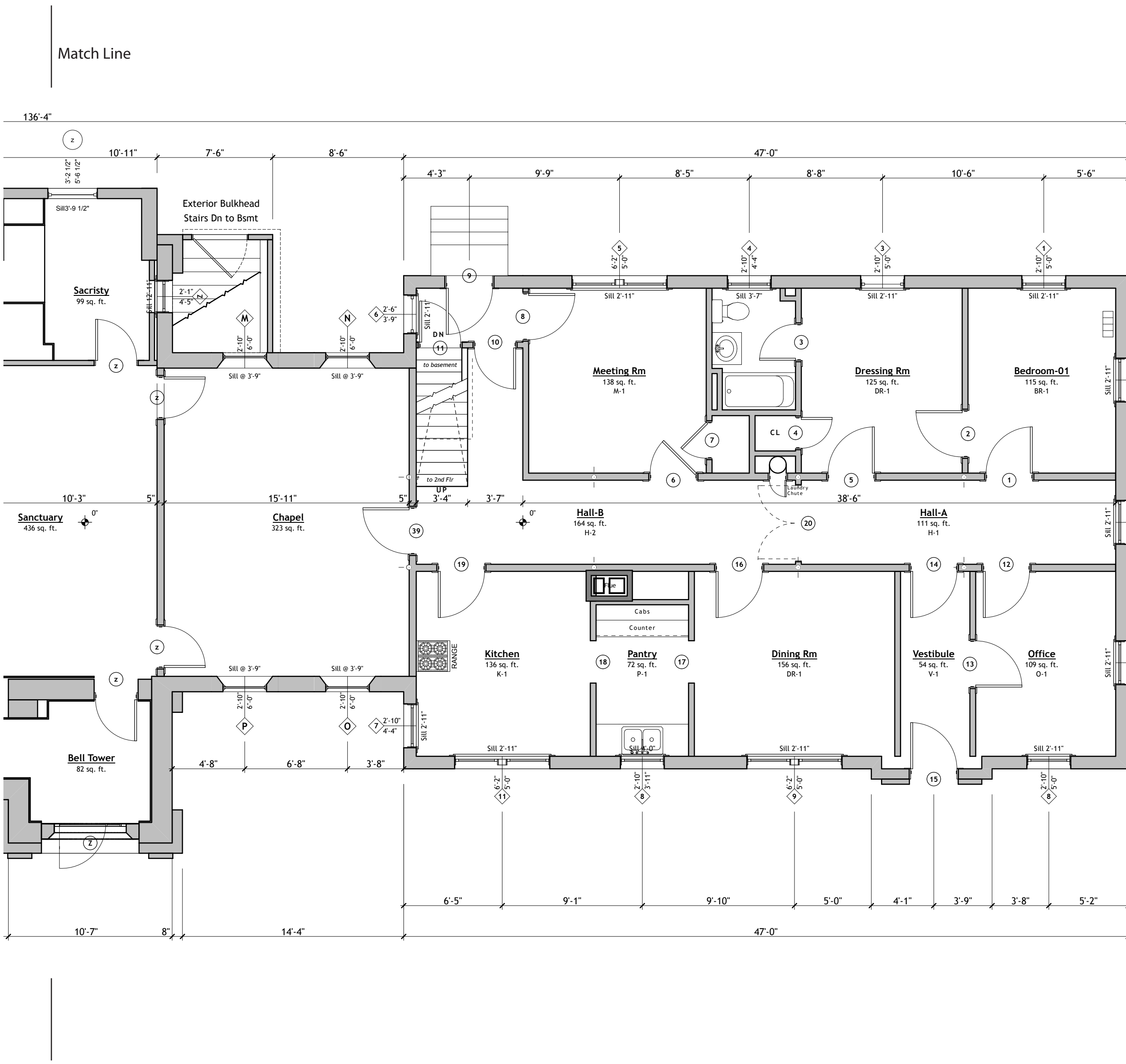
scale : 3/32″ = 1′-0″ **Basement Plan**

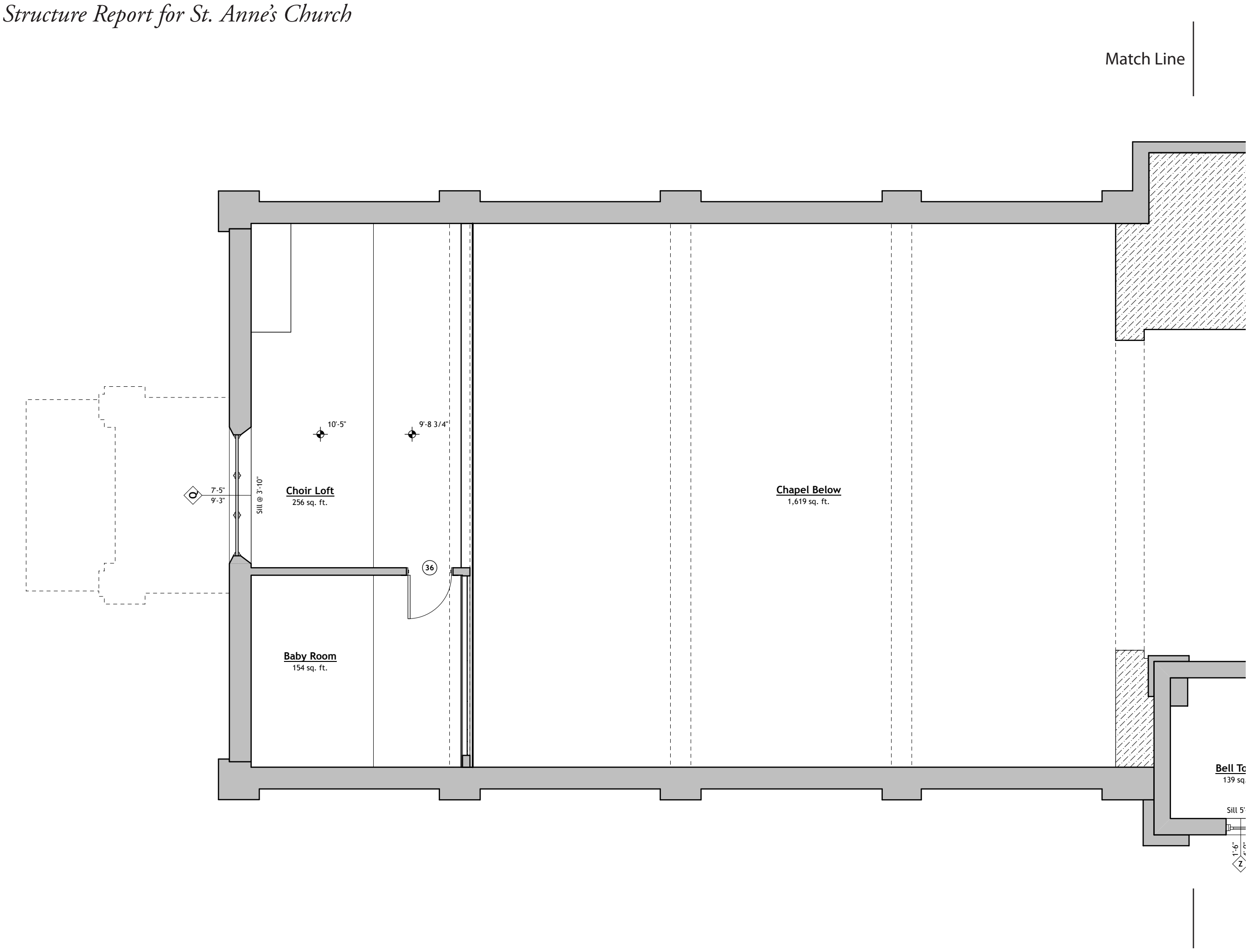


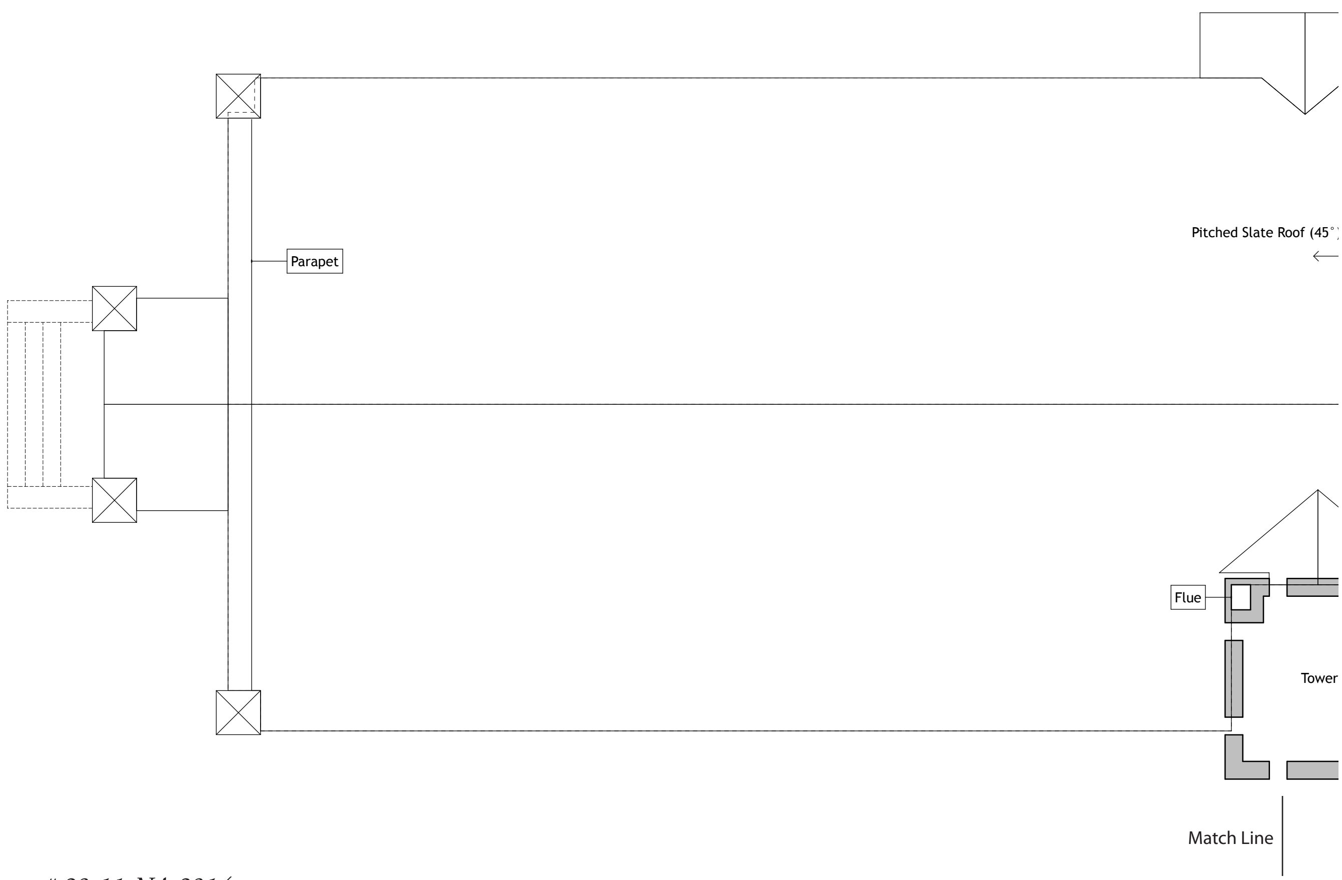


Match Line
136'-4"
8"
2'-6"
11'-0"
5'-6"
Sill @ 4'-2"
Sacristy
Entry
70 sq. ft.
Congregation
1,619 sq. ft.
Sanctuary
436 sq. ft.
Line of Balcony Over
Step Up 0'-5"
Bell Tower
36'-0"
47'-3"
33'-4"
56'-0"
5'-5"
7'-0"
10'-7"

scale : 3/32″ = 1′-0″ **1st Floor Plan**

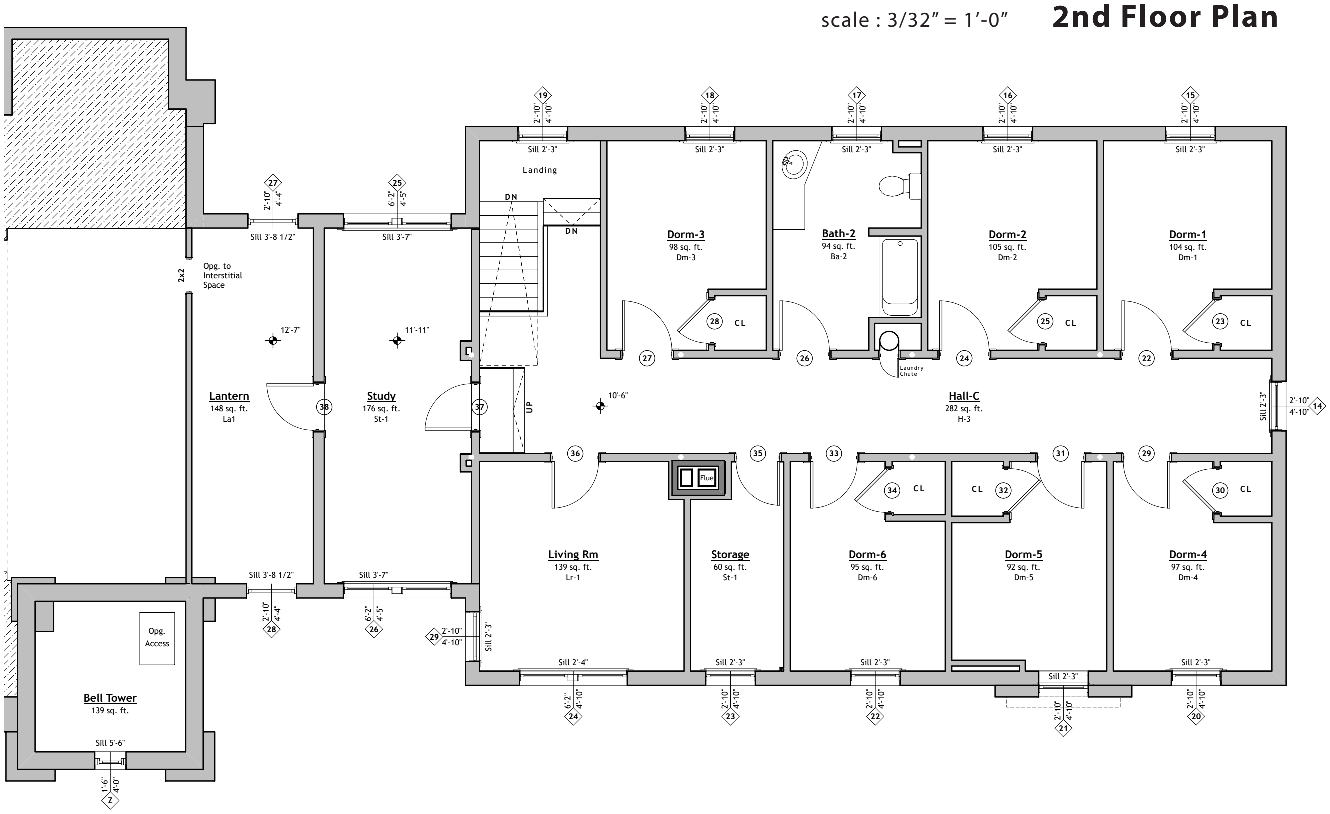



Match Line
10'-5"
9'-8 3/4"
7'-5"
9'-3"
Sill @ 3'-10"
Choir Loft
256 sq. ft.
Chapel Below
1,619 sq. ft.
36
Baby Room
154 sq. ft.
Bell To
139 sq
Sill 5'
1'-6"

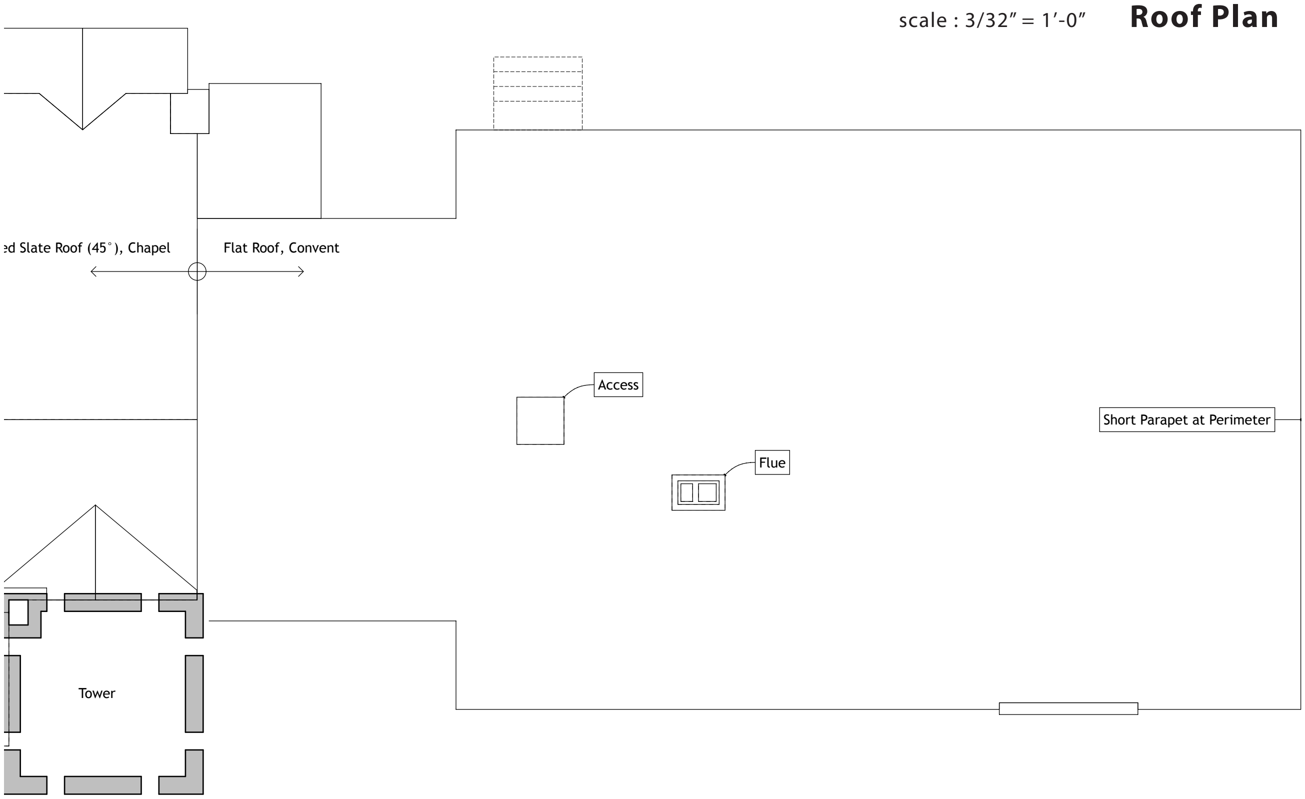

Parapet
Pitched Slate Roof (45°
Flue
Tower
Match Line

Match Line

scale : 3/32″ = 1′-0″ **2nd Floor Plan**



scale : 3/32″ = 1′-0″ **Roof Plan**



Match Line

Architectural Review

M. Curt Sachs, R.A.

Maine Licensed Architect

July 2013

Original wooden structure, destroyed by fire, January 19, 1927

Current Building, existing conditions, Southwest side, July 2013

The project is comprised of the St. Anne's Church, Passamaquoddy Indian Reservation at Pleasant Point, Perry, Maine, built in 1928, and the attached Convent. These buildings replaced the wood frame Stick/Shingle Style buildings destroyed by fire on January 19,1927. Architecturally, the subject buildings are of a vernacular style, suggesting some of the New England Meeting house style, though the bell tower is eccentrically located on the South side of the Chapel. The Architect is unknown and the builder was T.F. Cunningham and Sons of Portland. Due to the fire which destroyed the original buildings, the new Church design incorporated what was then perceived as fireproof construction. The construction budget was reportedly $12,000 and funded through insurance and several other sources.

The Church and Convent structures utilize steel trusses throughout, with various fireproof materials incorporated as a system. The brick masonry exterior walls are typically three to four wythes in thickness and bear on a brick with 4" veneer stone (granite) above-grade foundation wall which rests upon a below-grade poured-concrete foundation. It is unknown whether the concrete foundation is steel-reinforced. Furthermore, the type and composition of foundation footings is unknown. Portions of the foundation were reused in place after the fire. Bricks appear to be of Canadian foundry origin, though later replacements were likely of different origin. There are areas of obvious mismatch in size, color and texture

The steel structure appears to be intact, with moderate rusting in some locations. However, the flat, concrete roof at the Convent previously used a built-up membrane roofing system consisting of bitumen over a 3/4" felt, or perlite insulating board. More recently, a (poorly applied) rubber EPDM (Ethylene Propylene Diene Monomer Rubber) roof system was installed which has failed completely, having unattached from the roof due to high winds and negative pressure on the flat roof plane. This failed EPDM roof now sits

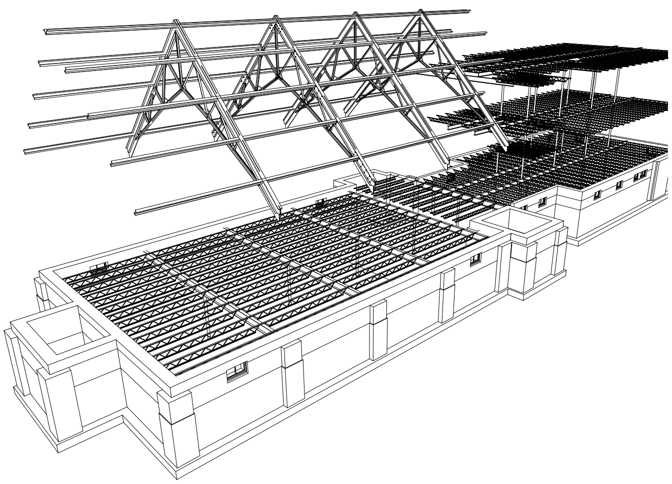


Illustration of the structural steel framing system.

useless, as a pile on the roof, with severe ponding on the unprotected, pervious concrete roof and is largely responsible for severe moisture infiltration in the Convent building. The resulting failure of the building envelop has caused interior and exterior material failure. Interior plaster, paint and floor failures are attributable to moisture infiltration from the failed roof membrane. This moisture has migrated through the interior finish as well as from the roof perimeter and into the exterior brick wythes.

View of the Convent Roof, June 2013, showing the former EPDM roof membrane torn off by wind, with severe ponding over the porous concrete roof. This roof has no protection from water infiltration and is leaking this water into the convent building.

Through typical freeze and thaw conditions, the masonry has failed in various ways.

• Freezing and thawing cycle has caused fracturing of brick, as evidenced on the visible exterior elevations. Some brick has up to an inch of its face missing. Other bricks have vertical cracks suggesting water voiding their integrity. Brick elevations throughout these buildings have been selectively repointed in the past. The mortar appears to be inappropriate in type and density, being harder than desired.

An example of severe brick face spalling caused by improper re-pointing with a mortar that is too hard for the historic brick, causing moisture to move through the brick (instead of the mortar.) As the moisture in the brick freezes it causes the brick to disintegrate.

• Large sections of the masonry exterior have been rebuilt at varying levels of craftsmanship, mostly poor, using bricks of dissimilar color, texture and dimension. There is a mix of older "water-struck" bricks and more modern machine manufactured brick. Additionally, the characteristics of the mortar and re-pointing vary around the building exterior, ranging from the historic mortar, with its softer density and larger aggregate to the newer mortar, with its harder density, finer aggregate, and higher Portland cement ratio. The latter of which has contributed to widespread brick-face spalling. A condition which will require complete replacement of the outer wythe (layer) of brick.

Photo showing a typical example of poorly executed brick replacement. On the left, older water-struck bricks and historic mortar. On the right, newer, machine made bricks of a different size with a different mortar composition.

• Brick pilasters on the Church exterior have unusually large but consistent gaps (some as large as one inch) at intended connection to the primary wall plane. There does not appear to be any bowing or impending failure of these brick coursings. However, the mortar gaps are severe and allow for major moisture infiltration. As time goes on the damage increases exponentially as wind and gravity driven water continue to invade the interior of the brick structure.

• Masonry failures have presumably undermined the foundation's resistance to moisture transfer. The basements show evidence of ongoing infiltration.

• Steel lintels over windows and doors are severely deteriorated through rust. A direct result of the water infiltration through the unprotected convent roof. With the exception of the stained glass windows, the majority of the original windows have been replaced with poor quality, failing vinyl windows. Lintel failure has allowed moisture infiltration and in some cases brick failure.

Severely deteriorated steel lintel over cheap, vinyl replacement window in the Convent. This situation is typical of all the vinyl replacement windows on this part of the building.

Comments and recommendations, Exterior of the building

Exterior WEST Elevation (Front)

» The Church entry has granite steps from unknown quarry, perhaps Canadian or Swans Island, Maine.
» The double storefront type doors are not original. They should be replaced with a more historically correct wood panel style perhaps with some vision panel glazing from the granite landing into the Church. THPO has photographs to suggest style of original doors. The replacement doors would likely be locally crafted and not from a catalog
» There are engaged brick pilasters on each side of the entry, as are arch topped stained glass windows. The brick and mortar are in fair condition.

West elevation of the church.

» Stained glass, here as in all other cases should be restored (glass, metal frames and wooden sash) as necessary. Existing (Unvented) Plexiglas sheets should be removed and replaced with a (glass or Plexiglas) system that provides passive ventilation to the exterior of the stained glass window. This will minimize future deformation and failure of the irreplaceable stained glass
» Stained glass window at Choir Loft should be inspected and repaired as necessary (glass and frame.)
» The copper/lead coated flashing details at the roof edge fascia and coping as well as pilaster and concrete band cover banding should be straightened, caulked with appropriate material, mechanically fastened and restored for a straight weather tight fit.

Exterior SOUTH Elevation at the Church

» There are four bays comprised of arch topped stained glass windows. Frames are typically severely deteriorated. Some glass panels are out of plane due to heat buildup from unvented enclosure and resulting lead softening. The entire stained glass assemblies should be repaired and or replaced as necessary (typically for all such windows.)

Example of poorly executed brick repair & replacement. Note the different colors of brick and mortar.

Example of brick pilaster failure. The pilasters are the attached exterior columns of the main church which match the roof truss framing. They appear to be non-structural and intended as decorative elements. Most of them are separating from the building. This is the worst example on the North side. As wind driven water gets into the crack it increases the deterioration of the mortar bond.

» Brick pilaster failure is prevalent. The gaps between primary brick face and the pilaster masonry must be addressed. Inspection of several pilaster connection points and corners suggest major moisture infiltration and deterioration of mortar. Freeze/thaw cycle has caused the masonry to become unstable. However, separation from primary masonry plane has remained remarkable vertical and consistent. Structural analysis may recommend removal of the pilasters at all locations. Structural steel may need to be added to carry the buttressing loads to foundation. Rebuilding of pilasters will then be required. Care must be taken to match adjacent brick as closely as possible relative to size, dimension, color and texture. As noted, existing brick in several locations suggests Canadian foundry origin.
» Bell tower exterior requires repair of trim and copper/lead flashing and details.
» Entry door at Bell tower is of modern storefront type. This door should be replaced with an historically correct style. Tribal THPO should be consulted for photos of original entry and replace appropriately.

Exterior SOUTH Elevation at the Convent

» Evaluate condition and restore as necessary stained glass window at Second floor and two arch topped stained glass windows below it on First floor. Remove polycarbonate sheets. Repair/replace frames as required and reset glass segments as necessary
» Replace all vinyl windows. Evaluate all trim, lintels, associated brick pointing, revise as necessary. Any failing lintels shall be replaced for proper bearing
» Second floor brick coursing is bowing at the Southwest corner of the Convent Second Floor. This is a severe case of moisture infiltration from the missing roof membrane. Moisture has deteriorate the plaster interior walls, rotted flooring and penetrated the innermost wythe of brick

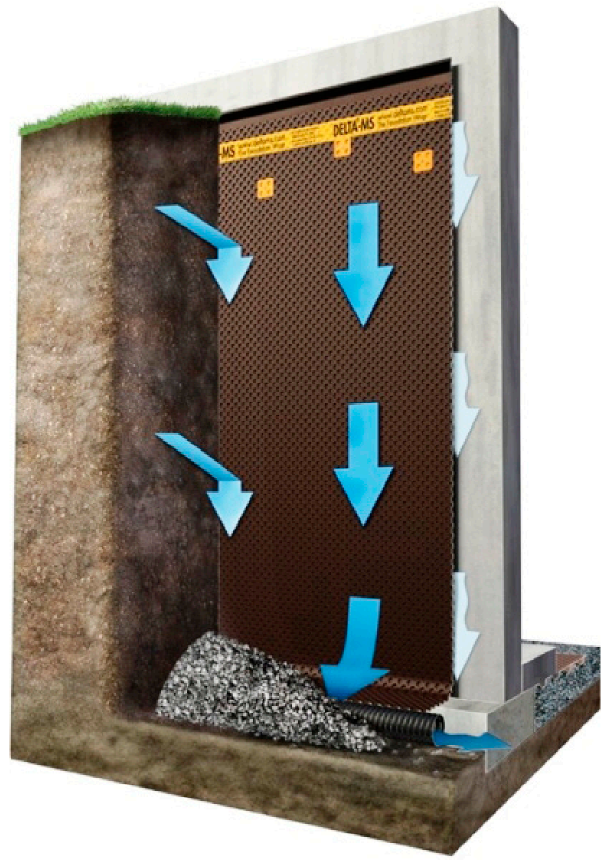
Example of the Copper/Lead-Coated flashing which is typical to the building. It is used to cover the precast concrete sills, blocks, caps, parapets and trim ornaments. Here it is badly deteriorated and buckling due to pilaster failure on the bell tower.

to cause structural separation and bowing as noted on the exterior. After restoration of roof membrane and flashing, brick will be replaced in areas of brick bowing and beyond to assure stable brick wall. The replaced brick must be mechanically tied back to wall structure with appropriate methods and materials.

» Existing entry door at Southeast corner of Convent to be removed and reconstructed using historically appropriate door, Structure should be eliminated or revised and rebuilt per functional requirements of facility.

» Restore/replace existing copper/lead coated flashing as elsewhere . Proper mastic and mechanical fastening as required to create impermeable seal and architectural integrity.

» Perimeter drainage excavation should be performed at entire building perimeter adjacent to foundation. Severe moisture infiltration into basement will be eliminated. This perimeter drainage system is a critical aspect of restoring this property. Note: The entire facility lacks conventional gutters and leaders. This causes all runoff to sheet off the roof (Church) or pond at the Convent. It would be architecturally prohibitive to add gutters and leaders to this aesthetic. Therefore, runoff would continue as it does at the Church perimeter, falling into the new perimeter drainage system designed for this situation. At the Convent, the concrete slab roof should be modified for positive drainage to (existing) roof drain and two additional drains strategically placed for positive drainage collection. Tapered insulation is part of the revised roof solution. The new rubber (EPDM membrane would be fully adhered and incorporate these elements. Considering the excessive wind exposure on the



Example of the type of perimeter foundation drainage system which is recommended

Convent roof, addition of stone ballast is recommended on top of the membrane.

Exterior EAST Elevation (Ocean Side)

» This elevation is the most exposed to hostile weather.

» The condition of brick is worst on this elevation.

» The Northeast and Southeast corners of this wall exhibit a typical brick failure resulting from freeze/thaw cycle as well as windswept moisture infiltration. Numerous bricks have lost their facing as water saturates the brick, freezes fairly uniformly in depth and falls from the brick face of the wall. This particular condition is most pronounced on the East elevation, though it is seen elsewhere on both buildings.

» All defective bricks should be removed, replaced with closely matching brick and repointed with appropriate mortar type and consistency. Defects include but are not limited to crazing, cracking and loss of face surface.

» All windows on the East elevation are failing vinyl replacement windows and should be replaced with historically and functionally appropriate windows. Wood windows with exterior cladding are recommended particularly due the harsh micro climate of Pleasant Point

» All lintels above windows and doors should be repaired, resurfaced or replaced as necessary.

» All basement windows should be returned to functionality at a minimum to provide daylight to the dark basement. Consideration should be made to choosing operable versus fixed units. Again, they should be durable and maintenance free.

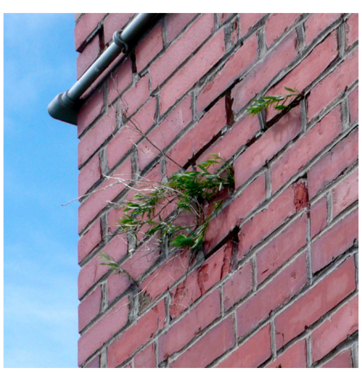
All of the basement windows are covered and/or rotted. Replacing them with operable and secure units will provide both light and ventilation to the basement.

» Galvanized window wells should be installed at each location to mitigate moisture migration into the Basement

» Repair/ Replace existing copper/lead coated flashings at coping and covering cast concrete elements. Caulk and seal with suitable sealant and mechanically fasten at appropriate locations so as to preserve weather tight coverage. Fastenings shall be as least visible as possible.

» At roof level, restore cladding on East elevation of gable end of Church. Proper flashing and counter flashing should be installed to prevent leaking from Convent roof into adjacent Church. EPDM membrane must be properly terminated at this intersection of roof and wall.

» Replace access door into gable end of Church building



Grass growing in the joints on the east side of the building.

Severely rusted metal frame on one of the stained glass windows causing buckling lead and broken protective outer glass.

» Restore louvered vent located in gable end of church.

» Bell tower arched louver should be restored. Wood shall be replaced as necessary with cedar and prepared and installed to provide weather tightness. As typical, all wood should be primed and painted.

Exterior NORTH Elevation (Elderly Center side)

» Replace all vinyl replacement windows with clad wood replacement windows, as noted elsewhere in report

» Repair, replace all lintels to provide adequate bearing on brick units and maintain dimensional depth to suitably carry loads above

» Restore stained glass window and frame at Northwest corner, second floor. Reinstall with appropriate sealant and mechanical fastening to brick or other structure. Seal with appropriate long life sealant

» Similar remediation to stained glass windows (2) below on First Floor

» Existing doors and lintels should be replaced with historically appropriate maintenance free doors. THPO shall be consulted for historic precedence in style (photo archives). Consider demolition of bulkhead adjacent to the Convent-Church intersection. Replace with historically appropriate structure.

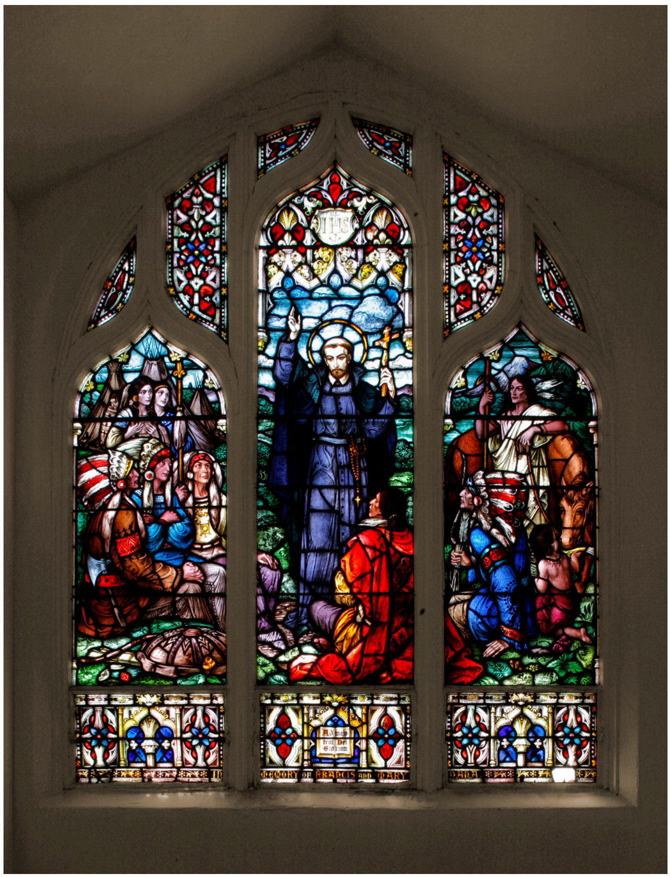
» Restore/replace all copper/lead coated flashing and cornice details. Seal and mechanically fasten. Fasteners shall not be visible from the ground

» Remove all Basement window blocking. Provide new replacement windows as noted on other elevations. Provide corrugated galvanized window wells with positive drainage. Windows shall be fixed or operable after consulting with Owner. Typical for all Basement window openings along perimeter of the building.

» Provide excavated drainage system as noted for all other elevations.

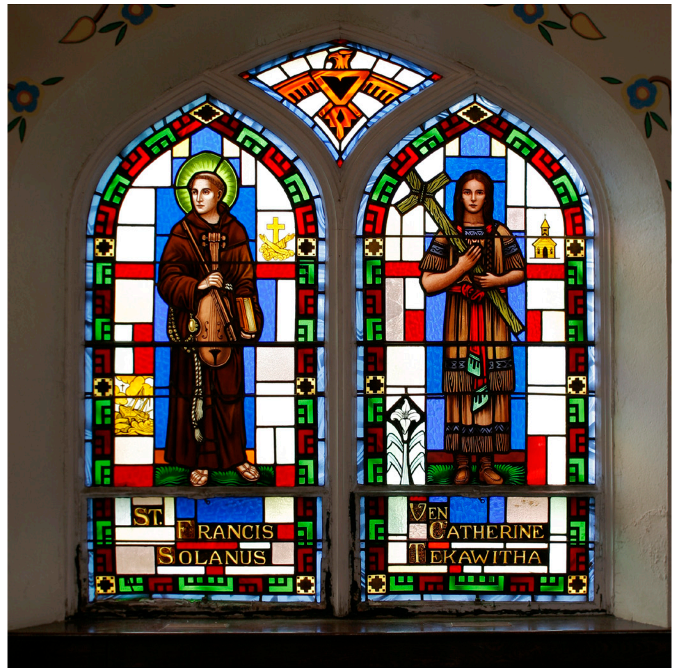
Stained Glass Windows

There are nineteen (19) unique and finely detailed stained glass windows throughout the church and convent, by three separate artists. The first group includes the large, front window above the entrance by Franz Mayer of Munich, a renowned studio active in the later 19th and early 20th centuries. Two smaller, simpler windows in the “Lantern Room” are also attributable to Franz Mayer The second grouping consists a series of 8 double portrait windows portraying two standing



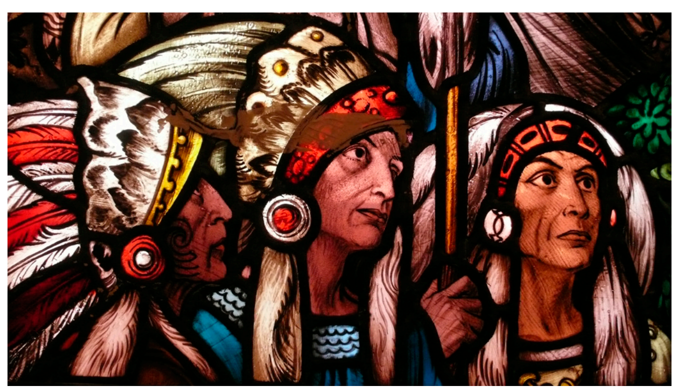
The large, Stained-Glass window in the choir loft, above the front (West) entrance by Franz Mayer of Munich. The window measures 7 ½' x 9' approximately.

figures in separate gothic frame, and topped by a phoenix at the apex. Each of which is associated loosely with native or aboriginal peoples and/or their causes. The most topical being a portrait of Kateri Tekakwitha, the so-called “Lily of the Mohawks”, and recently canonized native American saint. There are two other non-portrait windows by the same artist in the chapel space. The windows are distinguished by their bold, graphic style, machine-made glass and stylized portrayal of the characters. The artist is unknown at this time. The third group of windows are the four (4) “English”

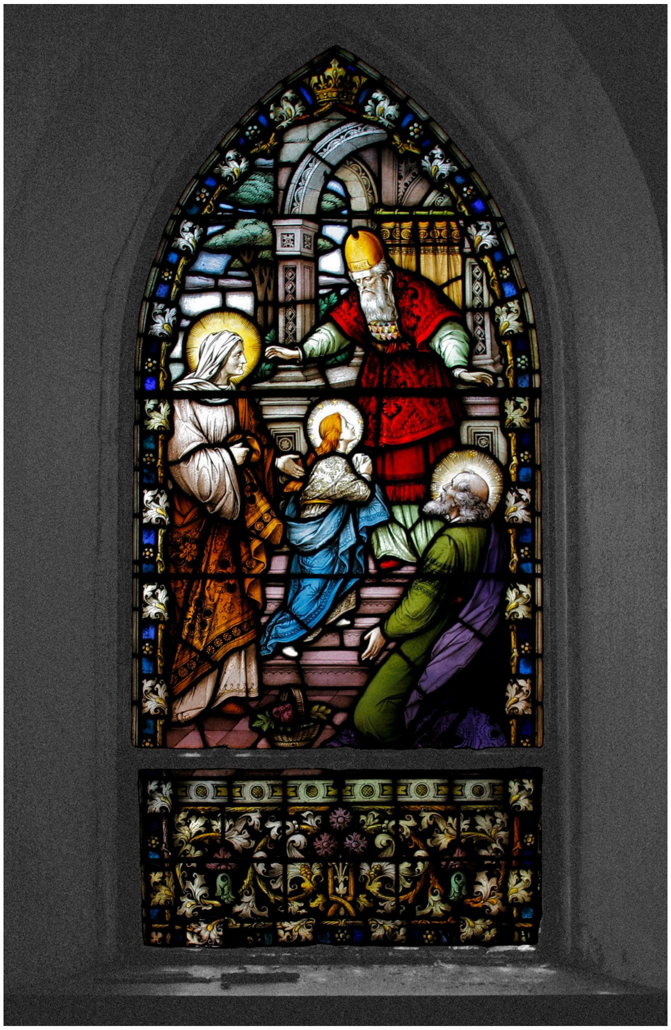


One of the eight double portrait windows in the chapel, this one depicting Saint Francis Solanus and Kateri Tekakwitha “The Lily of the Mohawks.”

style windows, which are notable for their exquisite, painterly style and hand-blown stain glass. The artist or studio is unknown at this time. The windows are largely intact, though some are bowed due to heating of the lead connections resulting from unvented enclosure of the glass by protective polycarbonate materials installed on the exterior plane. Any exterior plane protection of stained glass should have a passive means of ventilating the enclosed window space to avoid heat and moisture buildup



Detail from the Franz Mayer window to the left. The window is inscribed along the base, on the stained glass” In memory of Francis and Mary Dana.



One of the four "English" style windows in the vestibule. Each of which depicts a scene from the life of Christ. These windows may have been "stock" windows that a church would order from a catalog, but they remain exquisite examples of the stained glass art with their painterly style, graphic density and hand-blown glass.

Comments and recommendations, INTERIOR of the building

» Plaster and other finishes in Chapel are in very good condition. There are areas of superficial plaster cracking on the East end walls at the plane separating the Altar from the Chapel. Consideration should be given to appropriate plaster repair.

» Walls and ceilings in and adjacent to Bell Tower are severely deteriorated. Plaster shall be prepared and repaired according to proper means and methods, and painted to match Altar. Interior bell Tower door opening and door should be replaced with historically appropriate door. Exterior Bell Tower door should be replaced as noted in South elevation notes.

» Material deterioration throughout the Bell Tower

Detail of the window to the left.

should be remedied. Floor at First Floor level has been wet for some time and should be remedied as necessary. Note that deteriorated materials may contain asbestos or other deleterious materials and is to be properly abated and removed. This note applies to all interior surfaces in the Chapel as well as the Convent

» All locations of stained glass windows in the Chapel should be restored after windows are restored. Where frames of windows have been replaced and windows reinstalled, plaster and sealant should be applied to restore window installations to historic and aesthetic integrity

» Woodwork on the East wall of the altar should be refinished

» Repair deteriorated wall, ceiling and floor finishes between the Altar and the Vestibule.

Interior CONVENT basement

» Entire Basement level should be emptied of moisture, standing water, debris and floor, wall and ceiling finishes. Testing for asbestos, lead based paint, mold, radon and any other potential deleterious materials should be done prior to any work on restoration.

» Install active or passive ventilation to provide constant negative air pressure from Basement to exterior via appropriate location.

» Obsolete mechanical equipment and fuel tanks should be removed and disposed of accordingly.

» Existing egress to grade should be renovated as necessary to provide weather tight and safe passage route from Basement.
» Future use should be determined, with renovations appropriate to use.
» Basement level has little historic significance

Interior CHURCH 1st Floor

Basement of the Convent. Water infiltration through the foundation, and from the roof along with the lack of ventilation (from blocking up the windows) has created an environment of extremely high humidity. All steel is rusting. All wood is rotting. Mold and mildew are rampant.

» Condition of Chapel and Altar is fair to good. Primary issues are areas of floor, ceiling and walls (plaster and wood) as one proceeds from Church to Convent on this floor level. Beginning at vestibule and proceeding East, finishes rapidly deteriorate. Note comments on Bell Tower. Roof leaks have caused serious damage from the junction of the two buildings to the East and throughout both floors of the Convent.

General note for Convent

» The Convent building is not of noteworthy architectural significance
» Work in Convent building is more of renovative nature than restorative. Existing wood trim, details, wainscot and cabinetry should be restored if considered significant.

Roof leaks at the tower/church connection (left) run down the inside of the tower/church wall (middle) causing deterioration of the plaster near the entry from the alter to the tower (right.)

Interior VESTIBULE & CONVENT 1st Floor

» Major plaster repair required on wall walls and ceilings. New plaster lath may be required in some locations due to rust and deterioration of original metal lath. Generally, repairs should be made with plaster unless deterioration is widespread and substrate is not usable. In that case only, drywall may be used. Moisture resistant products should be used in Pantry and Bath.

1st Floor of the convent, typical conditions. Water leaking down from the roof saturates the walls causing the lathe and plaster to rot and rust. Ceilings and floors are saturated with water, growing mold and other fungi. Cheap vinyl replacement windows are failing, leaking air and holding moisture, quickening the deterioration of the window frames.

Interior of the chapel, looking towards the west from the alter. The chapel remains in surprisingly good condition as it has remained heated throughout it's life. Plaster suffers greatly in the Northeast when the interior spaces are not heated in the winter. The plaster collects moisture from condensation and rapidly disintegrates through the action of the freeze/thaw cycle. This is why we see a profound difference between the condition of the chapel and the convent, the latter of which has been unused and unheated for over ten years.

» Testing and abatement must be performed before any renovation occurs. This includes but is not limited to asbestos, lead based paint, mold. Testing should be performed throughout First and Second Floors of Convent building

» Stair abutting Vestibule wall must be rebuilt to code compliance. Many components have deteriorated or are missing, presenting a danger to accessing Second Floor at onset of project. Repairs may be performed as temporary solution with final finishes applied at completion of renovation/restoration.

Typical conditions on the second floor of the convent. Wind driven rain combined with water leaking from the roof, saturates the brick, causing runoff on the inner side of the brick wall, deteriorating the plaster and lathe and soaking the hardwood floor under the carpet.

Interior CONVENT Second Floor

» Test (lead based paint –LBT) and then remove all paint. Typical throughout this project both floors except as noted in Chapel.

» Repaint all surfaces previously painted. Prep and prime in all cases.

» Test (asbestos) and replace plaster throughout, as necessary to restore integrity of plaster ceilings and walls. Metal lath is exposed, rusted and otherwise damaged throughout project, Second Floor is particularly impacted.

» Only in extreme cases of plaster deterioration may drywall be substituted in renovation. Moisture resistant product must be used in kitchen, bathrooms throughout project.

» All historic woodwork to remain. Prepare and finish with low VOC finish product. Consult Architect regarding questionable materials and conditions.

» Remove, repair, and replace wood flooring. Consult Architect as to appropriate materials and methods regarding final treatment (sand/refinish vs. replace.)

» Test all areas where adhesives may have been used (entire project especially kitchen and bathroom floors.)

» Areas not receiving refinished or replaced wood flooring as final material shall receive carpet or other material in consultation with Architect.

» Bathroom shall receive sheet vinyl or linoleum flooring unless otherwise determined by Architect and Owner.

2nd floor of the convent active leak in the roof is causing the wood floor to buckle severely.

CRITICAL:

» Secondary egress from Second Floor must be provided. Depending on future use of the building, sprinkler installation may be required for the Convent building

» For ADA compliance, an elevator or suitable lift may be required.

» Existing stairway is missing key elements. Reconstruct stairway in accordance with Code requirements, regardless of future use

» Mold shall be abated in all areas of project. Particular note is made of existing mold and moisture conditions.

Exterior ROOF Convent

» Remove all EPDM membrane roofing materials and remaining fasteners

» Repair and mechanically refasten all copper flashing at perimeter of roof

Mold growth on the second floor of the convent (Living Room, Southwest corner), one of several varieties thriving in the convent.

» Install new EPDM membrane roof. Fully adhere .045 material with as few seams as possible. Installation shall be performed by approved roofing contractor in accordance with manufacturer specifications and installation warranty

» Consider use of stone ballast over EPDM roof to minimize wind uplift

Cornice detail, roof of the convent. Lead-coated copper trim and bituminous roofing.

» All membrane penetrations must be performed in accordance with roof warranty requirement and be properly terminated at perimeter flashings and changes in elevation.

» Test for Asbestos Containing Material (ACM) wherever exposed. Flashing shall be straightened and otherwise repaired for a straight and true installation

» Install tapered polyisocyanurate. Tapered rigid insulation over properly prepared concrete roof deck. Tapers must facilitate positive drainage to all roof drains. Current (only) roof drain to be restored to function. Additional roof drains shall be installed opposite corners of roof, penetrating through finished roof to Basement drain collecting system.

» Consider replacement or modification of roof hatch to insure weather tightness and secure access to the roof from the Second Floor

» Re-flash existing chimney as part of EPDM installation. Termination bars and devices for EPDM attachment to be installed. If new HVAC system is directly vented and existing chimney flue is therefore no longer needed, chimney shall be demolished and properly disposed. Opening through roof slab will need revision so as to provide stable substrate for continuous un-seamed EPDM membrane of roof

» Existing cast iron vent pipes at West face of Convent to be replaced with proper vent stacks. Re-pair, re-point masonry around pipes to prevent moisture infiltration.

Exterior ROOF Church

» Slate is in good condition. In several areas, new slate tiles have been installed. While the color difference is noticeable, the dimension and stability are acceptable. There is no evidence of roof failure in the Church itself. At transition areas between the Church and Convent buildings, severe, constant, moisture infiltration exists, as evidenced by active leaks and material deterioration inside the area of transition and throughout the Convent.

» At some point in the next few years it can be expected that the membrane beneath the slate will have deteriorated and will require the removal and re-installation of the slate roof. There is no current issue with leaks within the Chapel.

The slate roof of the church remains in fair condition. Photo of the North side. With mild lichen growth.

Exterior BELL TOWER

» Roof must be replaced with EPDM. Proper flashing into parapet is required. A drain must also be provided to conduct rainwater and melted snow to the site drainage system described herein.

» Wood trim to be prepared and painted with appropriate exterior paint. Rotted wood shall be replaced with rot-resistant material.

» Repair, prepare and paint at arch-topped louvers and all other wood details.

» Repair damage to Bell Tower walls and ceilings after asbestos and mold testing.

» Repair, replace, prep and finish all finishes.

SITE DRAINAGE MODIFICATIONS at PERIMETER of BUILDINGS

» Neither structure has a leader/gutter system to direct roof drainage.

» The Church has no gutters. It was observed that after a heavy rain, water cascades down the Church roof and ponds significantly at the building perimeter. It is most pronounced at the South elevation, where over a period of hours, several inches of rain collected at grade and dissipated through the foundation into the Basement and crawl space. Similar issues are noted in the Convent Basement.

» To remedy the situation, excavation at the entire building perimeters is required. The depth of the excavation must be to at least the lowest point of the Basement foundation. A system of perforated PVC piping, sand, gravel and proper pitch must be created. Such a system should be designed to gather, collect and disperse site drainage.

Bell Tower (East Elevation.) Numerous brick repairs of varying quality along with instances of improper re-pointing have led to the condition of serious deterioration on the tower.

Conclusion

The exterior masonry is in poor condition throughout the Church as well as the Convent. Deterioration of the building envelop (primarily roofs, windows and masonry walls) is serious and imperiling the integrity of both structures

Interior finishes, for similar reasons, have deteriorated to the point where significant restoration of walls, ceilings and floors is necessary. The Chapel interior is in good condition and requires little work beyond restoration of the stained glass windows and frames.

The buildings are not ADA compliant. Depending upon future uses, both buildings will require modification to meet modern day codes, including installation of sprinklers in the Convent. Testing and abatement are necessary to make future use feasible. This includes radon, asbestos, mold and lead-based paint testing.

Example of a similar project. With recommended perimeter foundation drainage system being installed.

Should these buildings be saved?

Pleasant Point's geographic location is key to any decisions for future use. Availability of specialized contractors is difficult due to travel distance to the Reservation. Some contractors may be available from nearby Canada, but the viability of using them in the US needs to be considered. If the buildings are demolished, the costs associated with demolition, hauling and disposal are significant. Without historical cost data for similar projects in similar locations, demolition and site preparation costs can only be estimated at over $500,000

It is our opinion that saving these buildings is the preferred plan of action. While they do not represent significant architectural significance, they do represent Passamaquoddy tribal culture and history. This would be the basis for qualifying the site as a place worthy of historic preservation.

Renovation and restoration may be performed on a phased basis. The first phase requires the excavation and construction of the site drainage system. The second phase is the longest and would make the buildings' envelops weather tight. In this phase, the Convent roof and all masonry and window work would be undertaken. The final stage involves repair and restoration of interior finishes and program spaces. These are somewhat dependent on future use. Renovations of kitchen and bathroom spaces are important aspects of the phase. As mentioned, ADA and code requirements must be addressed.

Upon completion of the three phases, the Church and Convent buildings should endure another 50 years of use if properly maintained. This is a benchmark customarily

Another project showing the recommended perimeter drainage system being installed. Note the field stone foundation wall.

used in evaluating renovations of such magnitude and importance.

We estimate the cost of this project to be in excess of $1,000,000. Methods and materials are not subject to many cost saving substitutions and are not encouraged. Phasing may be beneficial to the overall budget. The costs will also be influenced by availability of trade skills in the region.

To properly execute the project on behalf of the Tribe, it is imperative that a Facility Project Manager be in place. This is to insure adherence to the Architect's drawings and specifications set forth in the construction documents and associated contracts. The role of this individual is to interpret contractual obligations of contractors, evaluate field conditions and communicate with the Architect as to field issues and progress.

Structural Review

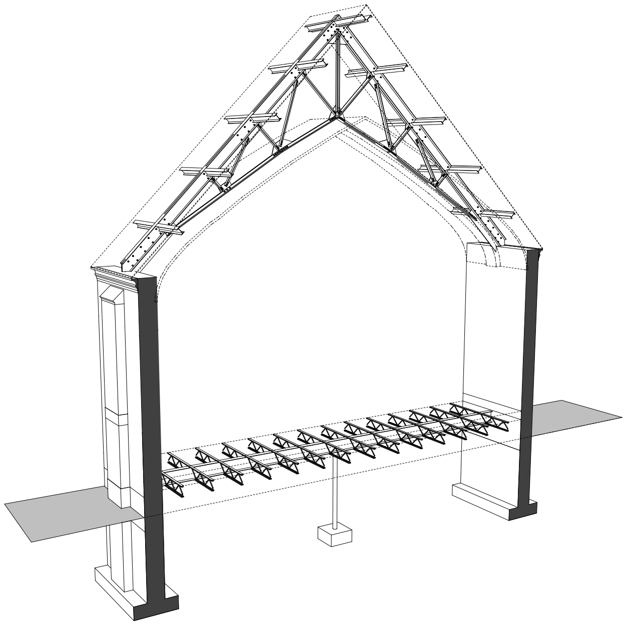
Adam D. Gillespie, P.E.

WBRC Architects, Engineers

July 2013

The building comprises a vaulted Chapel structure coupled with a two-story Convent Dormitory and a Bell Tower. Multi-wythe clay brick masonry walls on concrete foundations shape the exterior of the building and extend below grade to form a half story crawl space below the Chapel and a full story basement below the Dormitory. The floors and flat roof are steel framed with concrete slabs supported at the exterior masonry walls and interior steel columns. The pitched roof structure is framed with steel scissor trusses which clear span the building supporting a grid of steel purlins and gypsum roof tiles. The exterior masonry walls with large openings act as a frame that resists lateral forces.

The following synopsis of the structure is based on isolated field observations and measurements. Neither the original design nor any structural drawings were available for review. Building finishes were not removed to expose and verify structural elements; some assumptions were made based on research and common construction practice for the period of the structure.

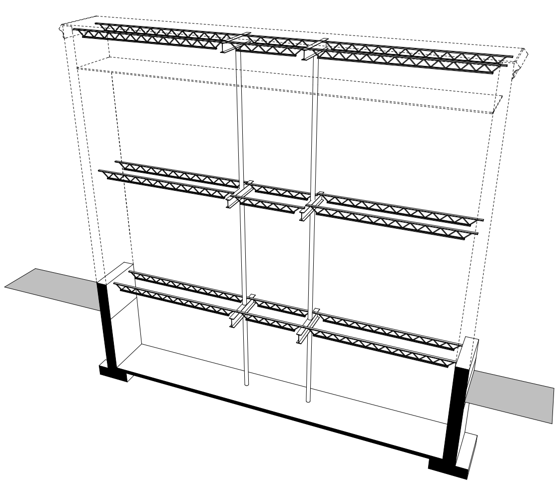


Structural Section of the Chapel showing the steel scissor truss and purlin system which clear-spans the space and supports the roof and the arched ceiling of the chapel.

Building Foundations:

The building is constructed on perimeter cast-in-place concrete foundations. Exterior masonry wall construction extends below grade and bears on the concrete foundations. The basement floor is a cast concrete slab-on-grade, while the crawl space is open earth. *(See Photo 1, 2)*

Based on limited observations from within the basement, the foundations appear in good condition for the age of the building and were likely constructed on good bearing material since signs of settlement and cracking are not evident. There were areas of floor slab with up to a half inch of standing water which was actively leaking through the below grade masonry wall construction. On the exterior, water shedding off the pitched roofs has scoured grade and ponds up against the building. *(See Photo 3.)*



Structural Section of the of the Convent showing the open web steel bar joist floor and roof framing system. Two dormitory floors and flat roof are supported at the exterior masonry and at two interior girder lines Which follow the central hallway of the convent at the basement, first and second floors

Some mortar deterioration and water damage was noted in the below grade masonry foundation

Photo 1: Typical lower section of concrete foundation wall construction.

Photo 2: Typical upper section of masonry foundation wall construction.

construction. The exact extent of repairs cannot be determined but costs for masonry foundation repair should be included as part of any future renovation project. New site drainage systems are recommended to reduce the wear on the masonry foundations, including introduction of a new foundation drainage system consisting of continuous perforated underdrain pipe wrapped in crushed stone and geotextile fabric around the entire perimeter of the foundation with a daylight outlet, adding a stone drip strip below areas of pitched roof eave to control splash-up and re-grading the building perimeter to direct water away from the foundation.

- **Repair deteriorating and water damaged masonry foundation walls.**

- **Recommend introducing an exterior foundation drainage system, stone drip edge, and re-grading building perimeter to shed water away from foundation.**

Photo 3: Water infiltrating the foundation wall through the upper masonry section.

Floor Structure:

The floor construction is concrete slab cast on steel joists and girders supported at exterior masonry walls and interior steel columns.

Slabs are cast on draped-wire mesh reinforced asphalt paper, fastened to the joist top chords with steel clips.

Joists are open web steel bar joists manufactured using continuous round bars for the top and bottom chords, a continuous bent round bar used for the web member and field braced with galvanized twisted wire

Photo 4: Typical open web steel bar joist framing to interior girder connected with steel wedge clip.

Photo 5: Typical floor construction with concrete slab on steel bar joist framing with twisted wire bridging.

Photo 6: Typical shop riveted and field bolted girder to girder connection

bridging. Joist ends have a wide inverted T-shape seat for bearing in masonry and where bearing on steel, the seat is connected to girder top flanges with steel wedge clips. *(See Photo 4 and 5.)*

Girders are I-shaped sections of hot rolled steel connected with shop riveted angles and field bolts. Where bearing on masonry walls, girders are pocketed into the multi-wythe masonry on steel bearing plates. At interior columns, girders are framed bearing on stiffened seat angles or column cap plates welded to the columns. *(See Photo 6 and 7.)*

Columns are hot rolled steel pipe sections that bear below the basement and extend up to the underside of floor framing at the cathedral structure and to the flat roof structure. *(See Photo 8 and 9)*

The Chapel and Altar floor is four bays of framing spanning east-west supported at the exterior masonry and at an interior girder line at each of the exterior brick pilasters on the north and south façades. These girder lines are supported at the exterior masonry walls and have a center interior column.

The two dormitory floors and flat roof are framed with three bays of framing spanning north-south supported at the exterior masonry and at two interior girder lines. Each girder line is supported by four columns aligned within the corridor demising walls. Both floors and the roof are constructed with concrete slabs.

The floors appear to have adequate capacity and likely performed well for the former Church and Convent occupancy. The Chapel and Altar floor remains in relatively good condition with minimal sag and only slight vibration and bounce. This floor would be suitable for most Occupancies ranging from office to assembly and does not require repair or improvement.

Photo 7: Typical steel girder bearing in exterior masonry wall. Note rust on girder end where bearing in masonry and water infiltrating foundation wall.

The dormitory floors are generally in fair to poor condition with isolated areas that show advanced deterioration mainly due to water infiltrating the building at the foundation and from the roof. The steel framing has signs of heavy rust and some section loss and the concrete slabs show water damage and likely has advanced deterioration due extended periods of wetness with freeze-thaw cycles. *(See Photo 10 and 11)*

*** Remedial work to repair the damaged areas including reinforcing heavily rusted sections of steel framing members and replacing small areas of slab are recommended as part of a future renovation.**

Photo 8: Typical single story column to girder bearing plate connection.

Photo 10 Steel joist and girder floor framing with heavy rust scale. Girder end framing to exterior masonry foundation wall construction.

Photo 9: Typical multi-story column to girder connection made with stiffened seat angles..

Photo 11: Water damaged section of slab construction sagging and exposing rusted wire mesh reinforcement.

Roof Structure:

The pitched Chapel roof is framed with four steel scissor trusses clear spanning the building aligned at the exterior masonry pilasters. Steel I-shaped purlins span the trusses bearing at the truss top chord panel points. Steel T-shaped sub-purlins span the primary purlins and are decked with gypsum roof tiles clad with slate tile roofing. The scissor truss ends bear on steel plates at the top of the masonry wall and do not appear to be supported by steel columns, but this condition could not be verified and should be investigated as part of a future renovation project. The steel components of the roof structure are in good condition and appear to perform satisfactorily. No signs of sag or overstress were observed from within the attic space or from atop the roof. *See Photo 12 and 13.)*

The flat roof has a concrete slab cast on steel joists spanning the exterior masonry walls and two interior girder lines. *(See Photo 14 and 15.))*

The flat roof combined with the poor drainage system makes the roof susceptible to increased loads caused by accumulation and ponding of rain or snowmelt-water that could accumulate to a depth that may overstress the roof structure. *(See Photo 16 and 17)* This roof is not insulated and the roofing is in very poor condition and in need of complete replacement with several areas actively leaking water inside the building. The internal roof drains are poorly functioning as upwards of 6 inches of standing water was noted on the roof.

The adjacent taller pitched roof at the west end of the flat roof creates potential for increased snow load caused

Photo 12: Typical Chapel roof steel scissor truss with purlins, sub-purlins and gypsum tile roof deck.

Photo 13: Typical scissor truss double angle seat bearing at top of exterior masonry wall on steel bearing plate.

Photo 14: Typical flat roof framing with concrete slab roof.

Photo 15: Typical roof joist span to exterior masonry wall. Note sag in joist and concrete slab possibly caused by ponding water on roof.

by drifting snow in the shadow of the taller roof. At this localized snow drift zone, the increased snow load could exceed the available capacity. As part of future re-roofing work, recommend engineering and performing isolated roof reinforcements to increase snow load capacity at this drift zone. This would be a voluntary improvement and not required by Code as building is essentially "grandfathered" provided the Occupancy does not change and the building structure is not substantially altered. *(See Photo 18 and 19)*

Recommendations and improvements for roof structure:

• Replace roof drains and install a secondary roof drainage system such as scuppers through the parapet or internal overflow drains to prevent accumulation and ponding of rain or snowmelt-water.

• Remove the existing tar roofing system to reduce dead load. Replace existing roofing with a rigid insulation and rubber roofing system.

• Engineer and perform isolated roof reinforcements to increase snow load capacity at drift zones in accordance with Modern Code (as part of future re-roofing project).

Photo 16 Significant depth of water ponding on the flat roof.

Photo 18: Higher pitched roof creates snow drift zone on flat roof.

Photo 17: Failed membrane roofing. Water ponding on original asphalt roofing and leaking into building.

Photo 19: Snow drift zone.

Exterior Masonry Wall Construction:

The building's exterior walls are mostly original unreinforced multi-wythe clay brick masonry construction. The majority of the exterior brickwork needs repair due to cracked and spalling bricks, or deteriorated and scoured mortar joints while the interior brickwork appear sound.

The exterior damage does not appear structural in nature as there are no signs of foundation movement (settlement or heaving), or signs of overstress at the building interior. Damage observed includes open vertical cracks, brick surface spalling, scoured mortar joints and wall base bulging which are likely caused by failing exterior envelope and water infiltration from poor roof edge conditions. Without a functional exterior envelope the exterior brick wythes are subject to thermal movement and moisture migration along with freeze thaw cycling which can severely damage the wall construction. *(See Photos 20-24*

The interior wythes of the exterior brickwork appears to be in good condition with minimal cracks observed and generally intact mortar joints. Isolated water infiltration to the interior wythes was noted where the bell tower connects to the Chapel roof, the east wall of the Dormitory, and throughout the bell tower interior. *(Photo 25) (Photo 26)*

Maintaining a weather tight envelope on the exterior brickwork is vital for protecting the interior wythes of brick which support significant gravity and lateral loads. Mortar deterioration at the exterior of the building can cause rapid and progressive deterioration to inner wythes of brick, which are critical to the strength of the

Photo 20: East exterior masonry wall with cracked and spalling bricks.

Photo 21: South exterior wall of dormitory. Lower section of wall outer wythe appears to have been replaced and is bulging out at the base.

unreinforced masonry walls and very costly to repair.

The exterior masonry walls are perforated with large window openings. The masonry forms and acts as a frame to comprise a lateral-force (wind and seismic) resisting system. However, unreinforced masonry construction is poor seismically due to the lack of anchorage of walls to the floors and roof, soft mortar, and the relatively narrow piers between window openings. The entire state of Maine is a moderate region of seismicity, and this building has relatively heavy floor and roof framing systems (concrete and steel as opposed to wood framing). This combination makes the building vulnerable to damage or possible collapse in the unlikely event of a strong earthquake, but could suffer damage (such as cracking) even in a minor earthquake. The building's masonry parapets and decorative elements are more

Photo 22: Bell tower with open vertical cracks at each of the corners.

Photo 23: Large open vertical crack at the connection of the pilaster to the exterior wall. Cracks were noted at most of the pilasters on the north and south façade of the Chapel.

Photo 24: Cracked and spalling bricks at the southeast corner of the dormitory.

Photo 25: Active water infiltration to the interior brick wythes at the connection of the bell tower to the Chapel roof.

susceptible to damage and represent falling hazards.

Reinforcing the building to meet the requirements of new construction for seismic resistance are not recommended or required provided the Occupancy does

Photo 26: Active water infiltration to the interior brick wythes at the east exterior wall of the dormitory.

not change and the building structure is not substantially altered. Repair and maintenance of the mortar joints are the most important and cost-effective approach to maximizing the strength of the unreinforced masonry walls. Furthermore, as part of any future renovation work, voluntary structural improvements, such as introducing and reinforcing anchors from parapets, framing and slabs to the masonry walls, are strongly encouraged.

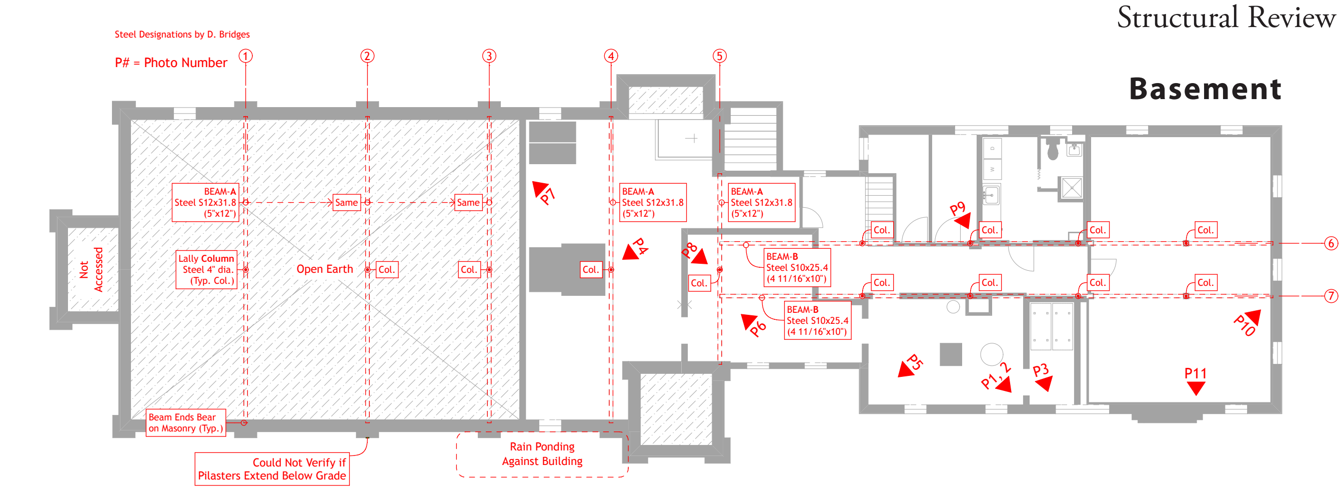
- **Recommend performing extensive exterior brick wythe repairs and repointing within the next 3 years to minimize infiltration and damage to inner wythes.**

- **Improve roof edge conditions and drainage to minimize exposure of exterior brickwork to roof shed water.**

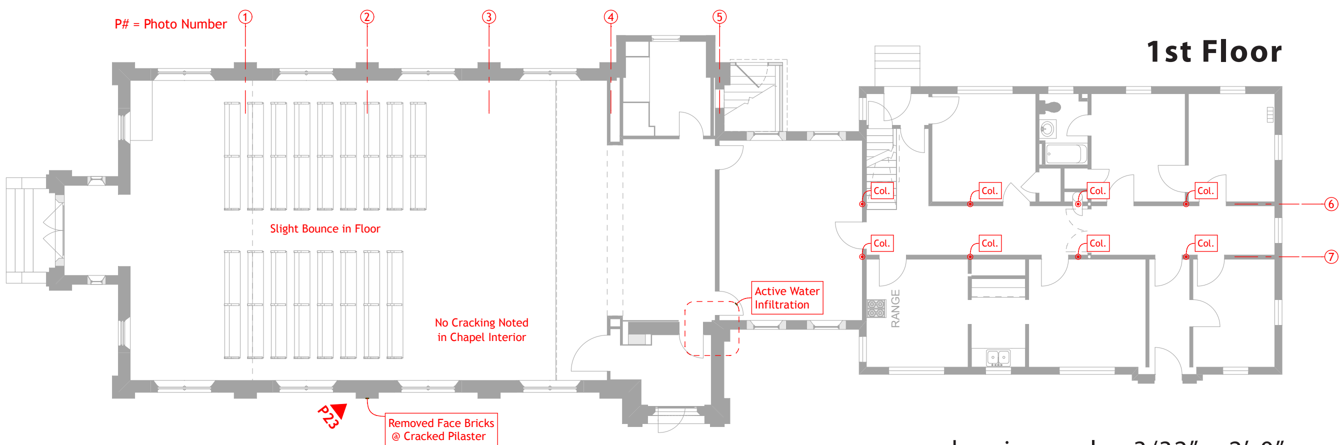
Structural Systems Conclusions

The structure was well-built and remains in relatively good condition for its age but having areas with deterioration and problems, mostly in the exterior masonry and the flat roof. The Chapel structure is in far better condition than the Dormitory which is likely due to the poor condition of the roofing and the eastern exposure of the dormitory to the bay. The foundations are sound and provide a solid base for the building, but the basement is prone to wetness from roof shed and ground water infiltrating into the basement. Perimeter foundation drainage improvements are recommended to resolve this issue. The steel framed and concrete floors are in good condition and have live load capacity for a range of occupancy and use. Some steel framing members, particularly where bearing in masonry are rusted and possibly have section loss requiring reinforcement. Both the pitched and flat roof structures have performed well, however the flat roof is at risk for overstress due to the poor drainage making it susceptible to ponding and the taller adjacent pitched roof to the west making it susceptible to snow drift load. Recommend replacing the flat roofing, improving the drainage system, and performing localized structural reinforcements for snow drift. The multi-wythe exterior brick walls support gravity loads, and resist lateral loads. The majority of the exterior brickwork needs repair due to cracked and spalling bricks, or deteriorated and scoured mortar joints. Immediate maintenance and improvements of the exterior masonry are essential to the longevity of the structure to prevent further water infiltration which can accelerate deterioration.

Basement

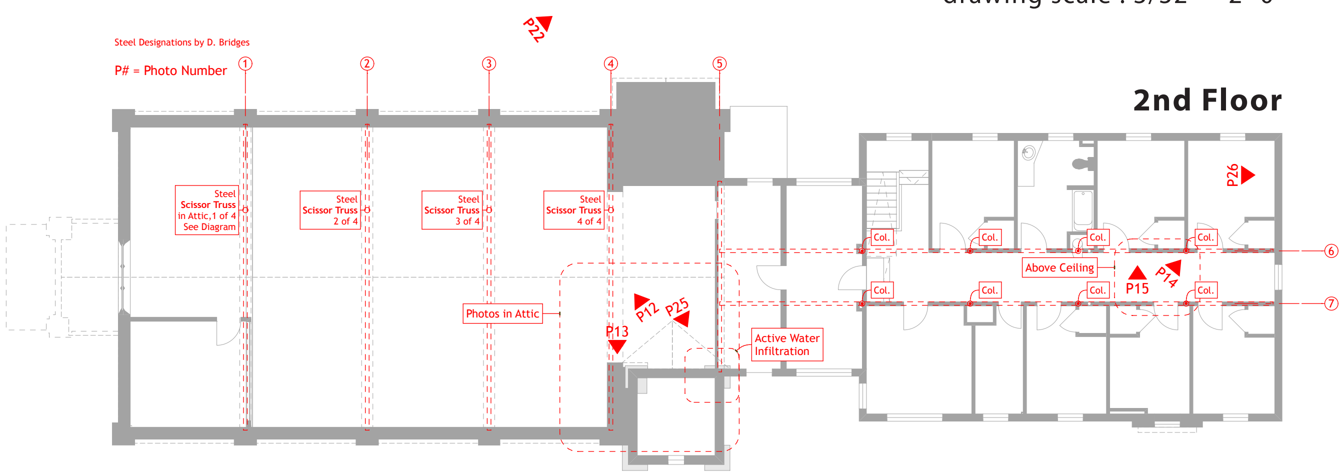


1st Floor

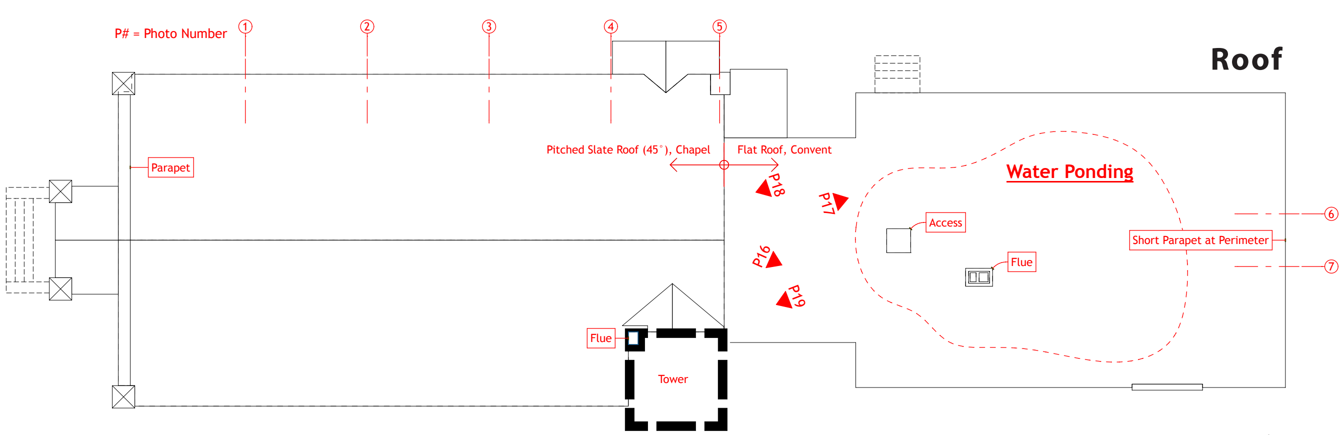


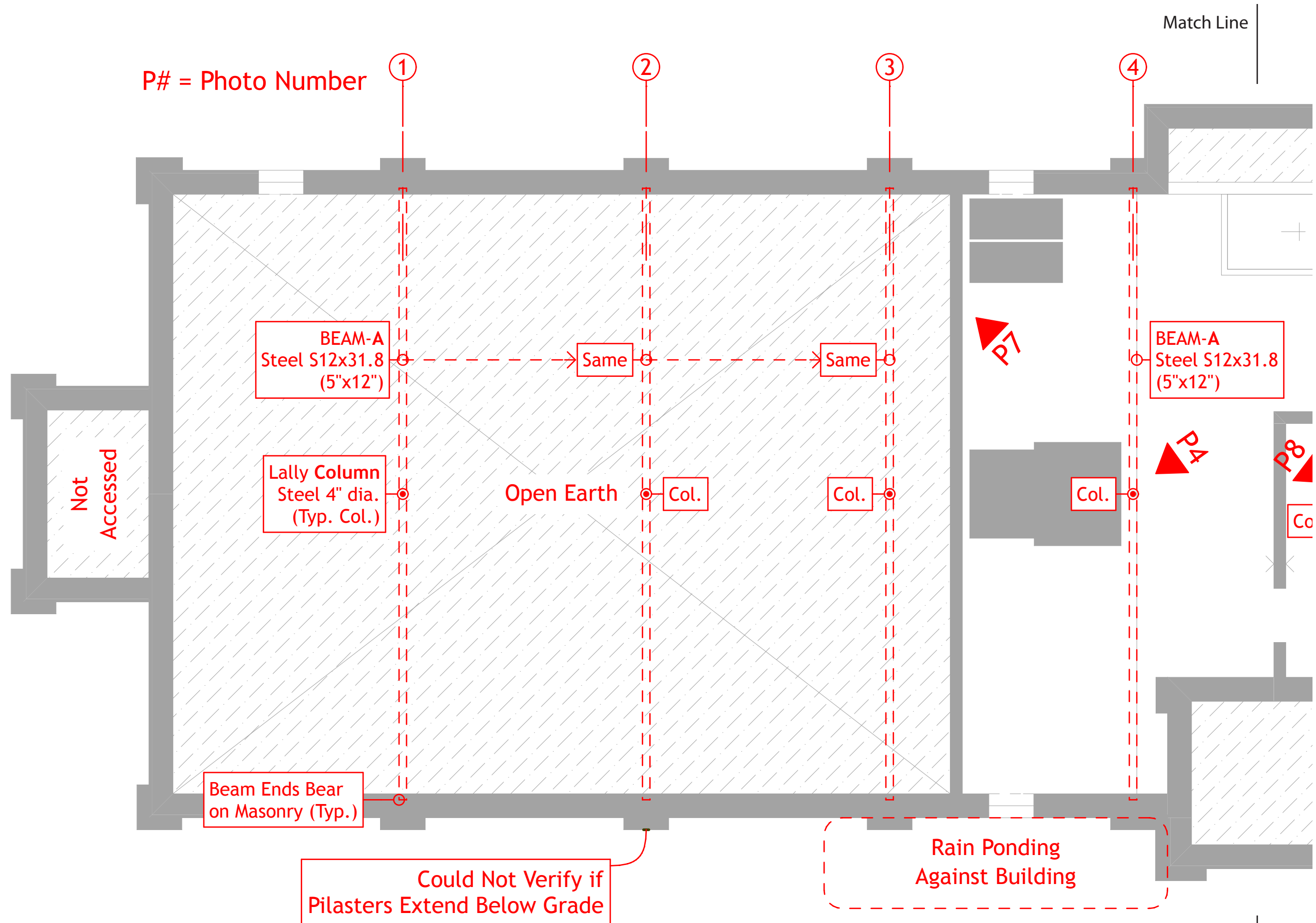
drawing scale : 3/32" = 2'-0"

2nd Floor



Roof

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Same
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Accessed
Lally Column
Steel 4" dia.
(Typ. Col.)
Open Earth
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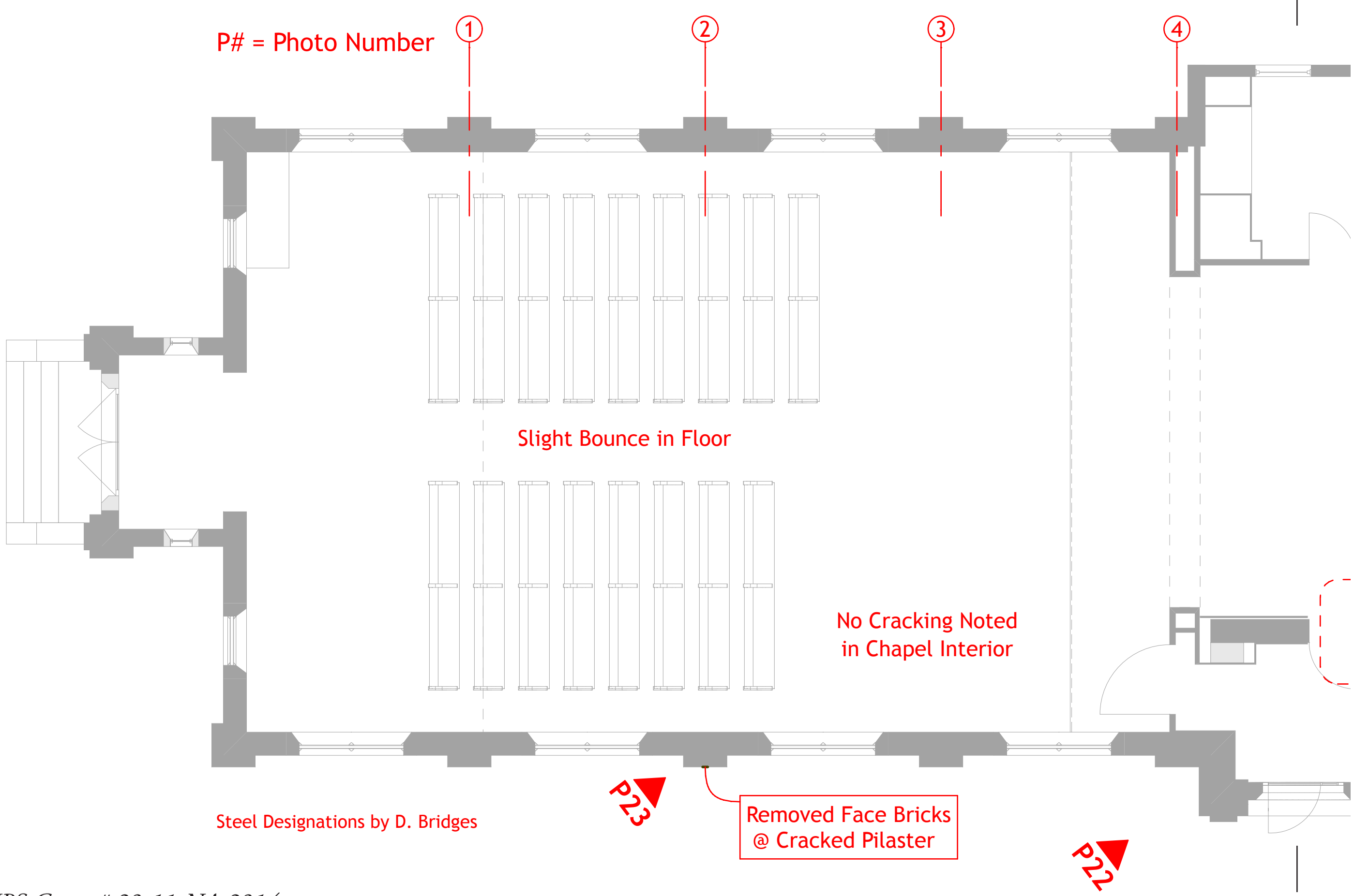
Beam Ends Bear
on Masonry (Typ.)
Could Not Verify if
Pilasters Extend Below Grade
Rain Ponding
Against Building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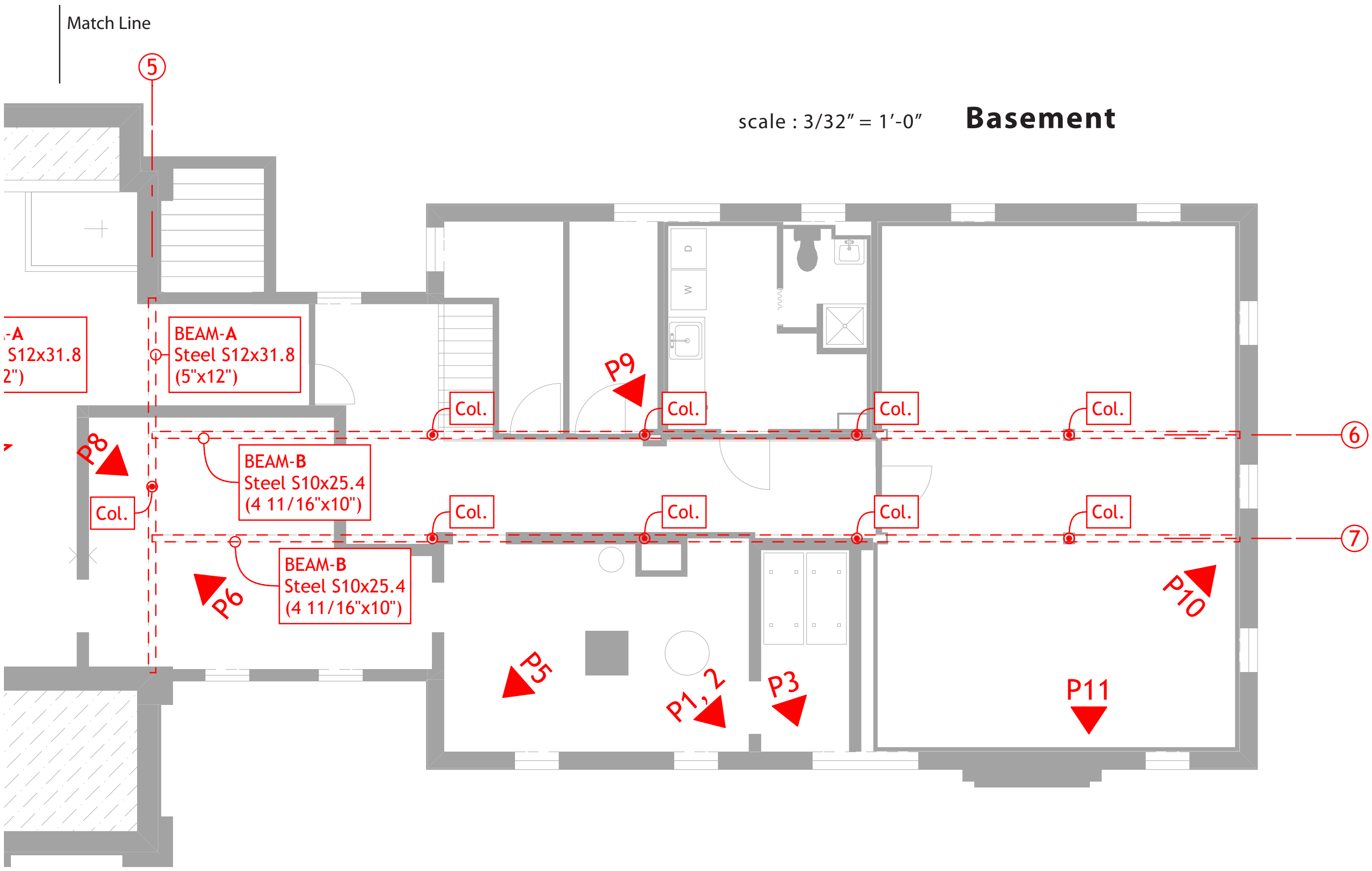
Slight Bounce in Floor
No Cracking Noted
in Chapel Interior
P23
Removed Face Bricks
@ Cracked Pilaster
P22
Steel Designations by D. Bridges


Match Line
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Basement
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2")
BEAM-A
Steel S12x31.8
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BEAM-B
Steel S10x25.4
(4 11/16"x10")
BEAM-B
Steel S10x25.4
(4 11/16"x10")
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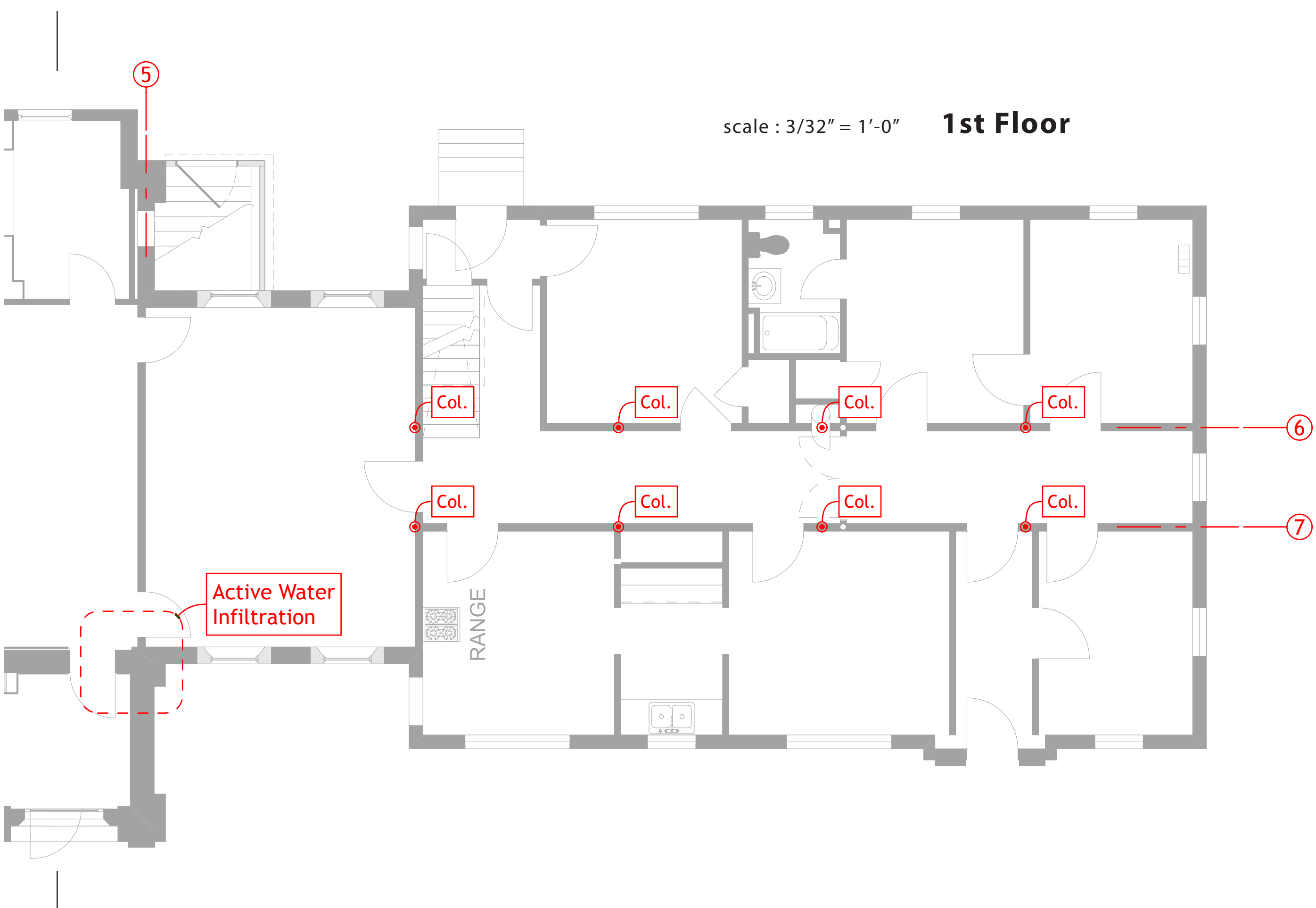
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scale : 3/32″ = 1′-0″
1st Floor
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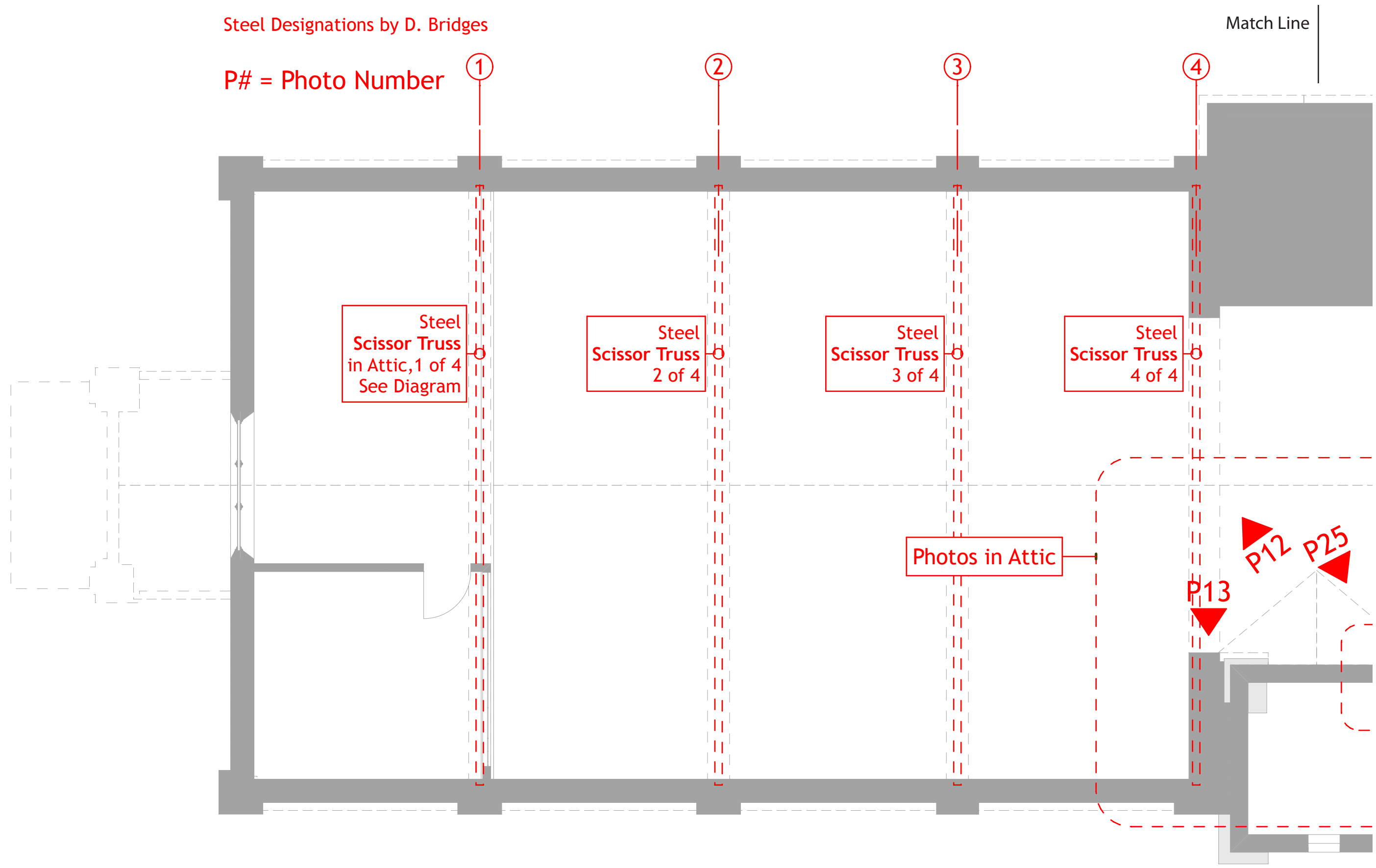
7
Active Water
Infiltration
RANGE


Steel Designations by D. Bridges
Match Line
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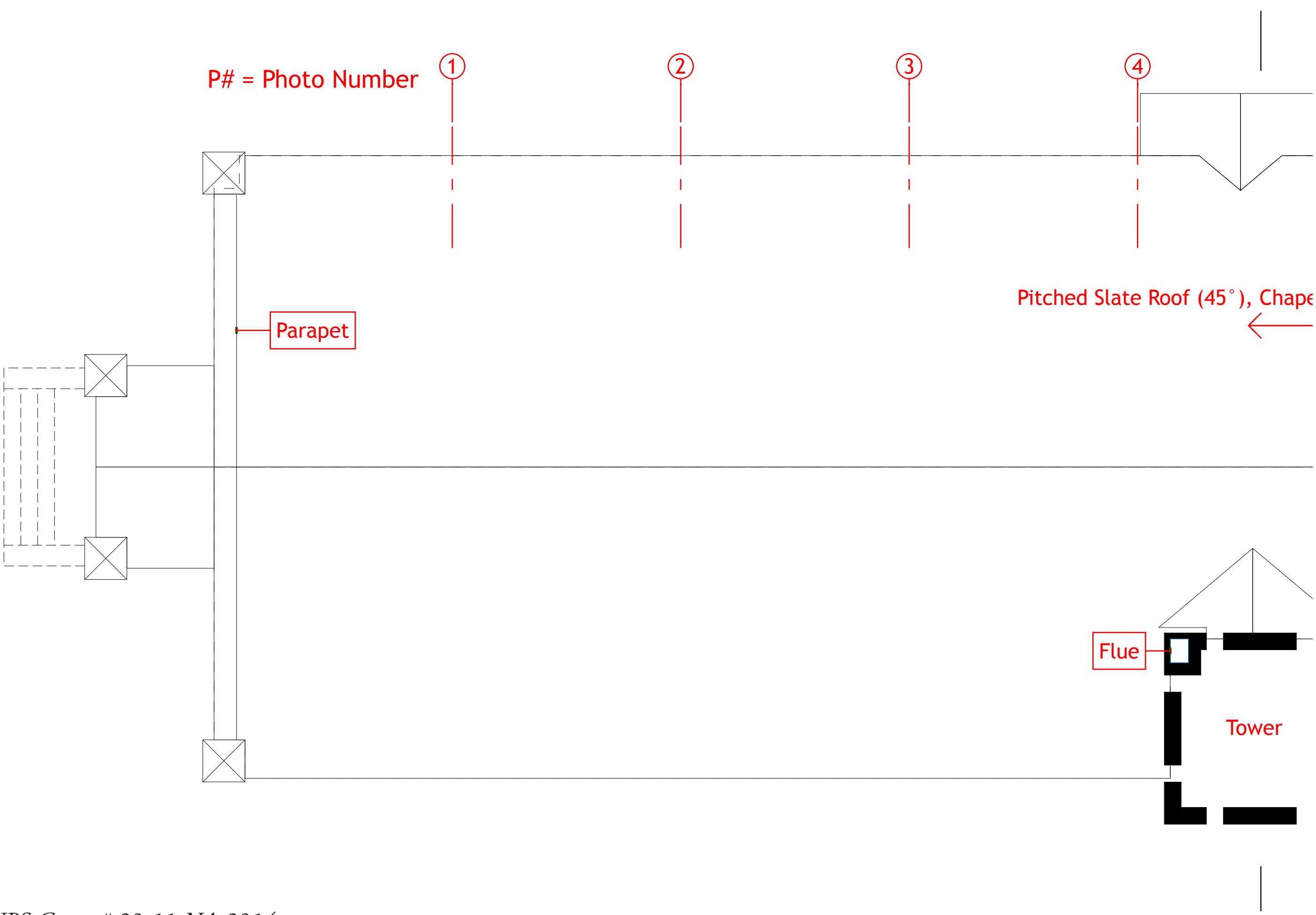
Steel Scissor Truss in Attic, 1 of 4 See Diagram
Steel Scissor Truss 2 of 4
Steel Scissor Truss 3 of 4
Steel Scissor Truss 4 of 4
Photos in Attic
P12
P25
P13


P# = Photo Number
1
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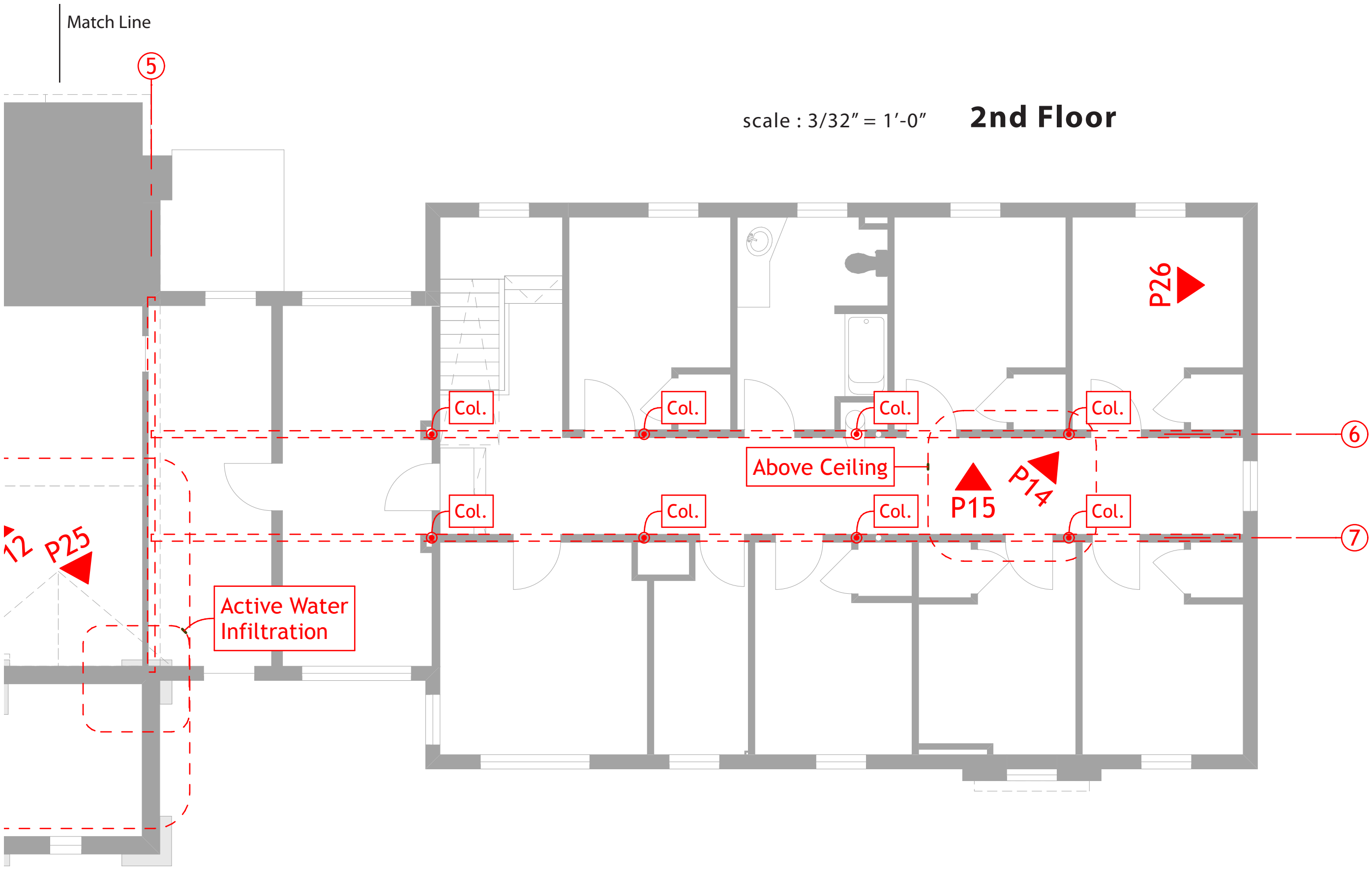
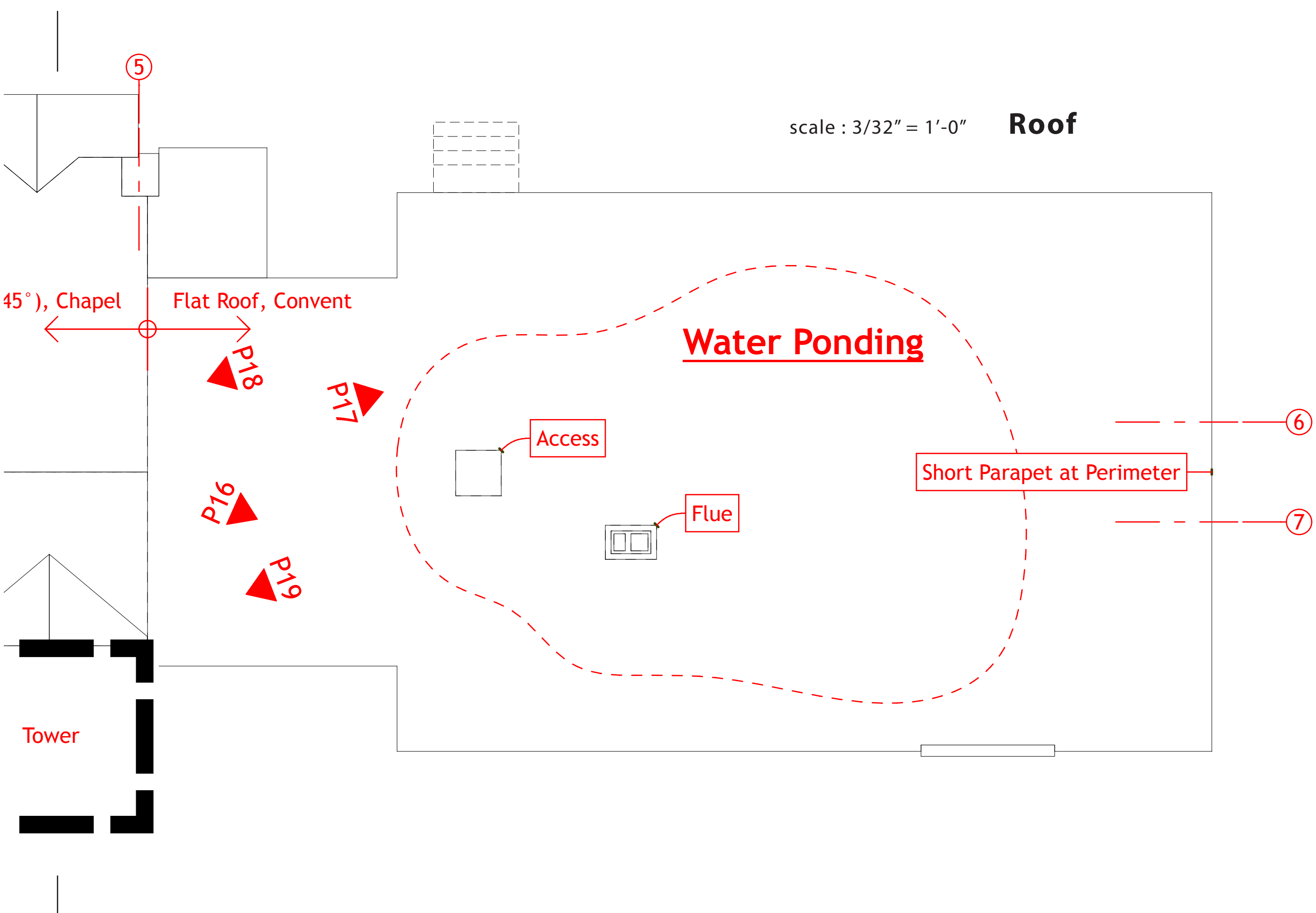
4
Pitched Slate Roof (45˚), Chape
Parapet
Flue
Tower


Match Line
5
scale : 3/32" = 1'-0"
2nd Floor
P26
Col.
Col.
Col.
Col.
6
Above Ceiling
P15
P14
Col.
Col.
Col.
Col.
7
12
P25
Active Water
Infiltration

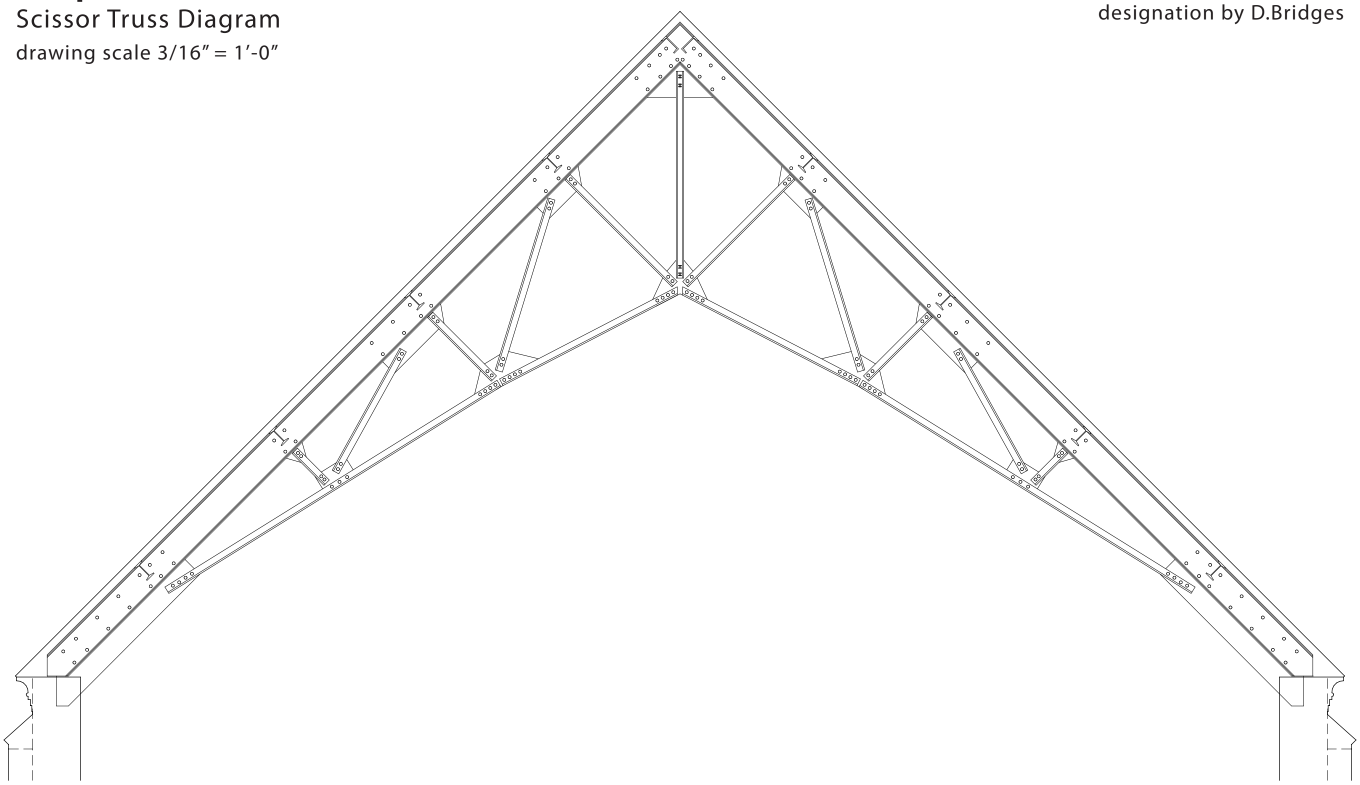

5
scale : 3/32" = 1'-0"
Roof
45°), Chapel
Flat Roof, Convent
P18
P17
Water Ponding
Access
6
Short Parapet at Perimeter
Flue
7
P16
P19
Tower

Chapel Roof

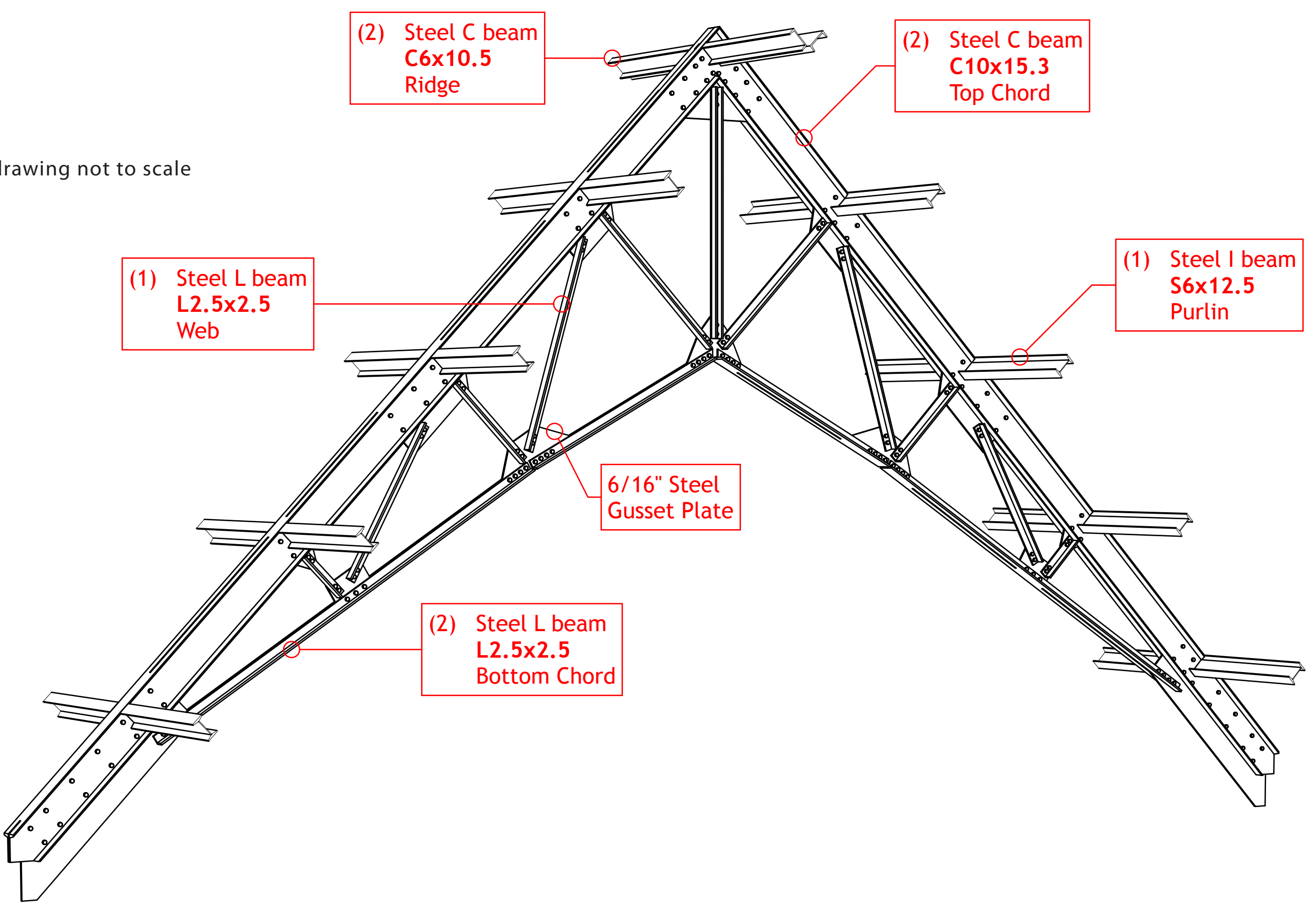
Scissor Truss Diagram

drawing scale 3/16" = 1'-0"

drawings and steel designation by D.Bridges



drawing not to scale

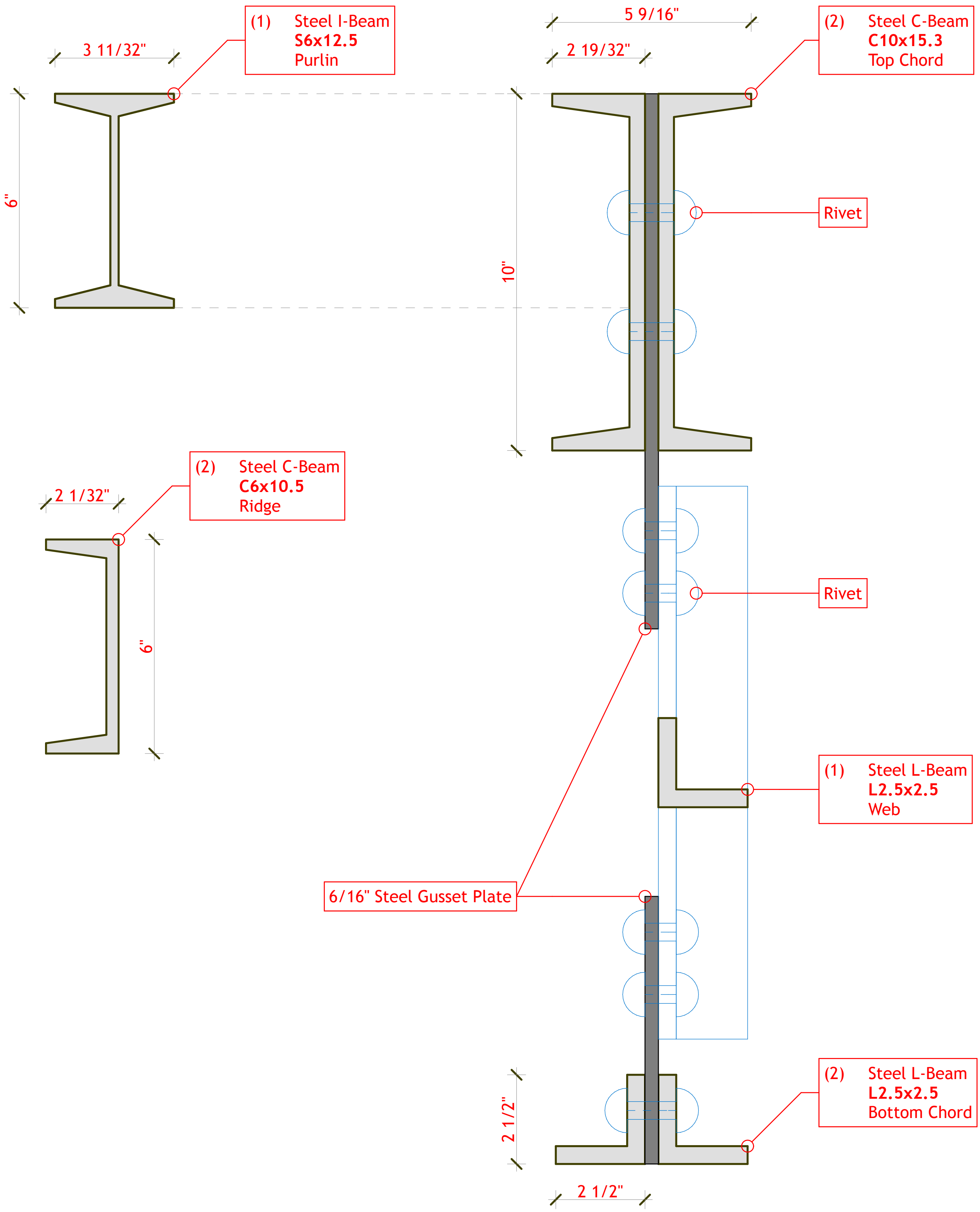


drawings and steel
designation by D.Bridges

Chapel Roof

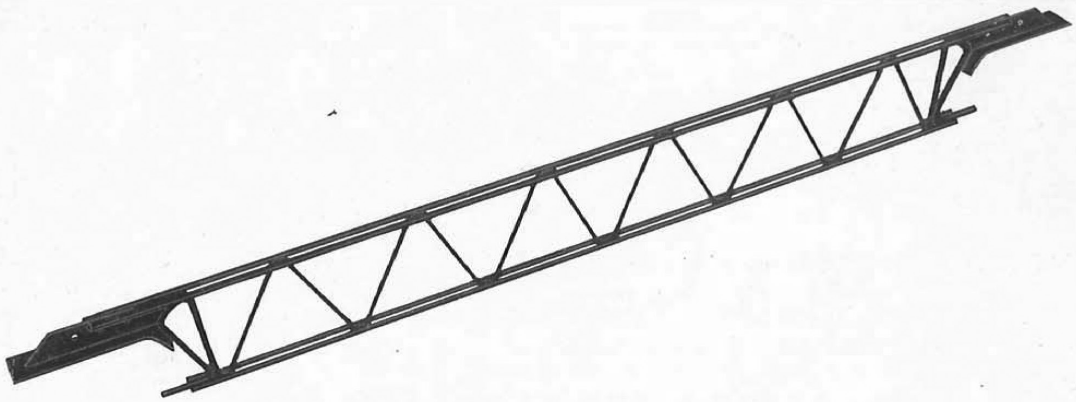
Scissor Truss, Sectional Detail

drawing scale 3″ = 1′-0″



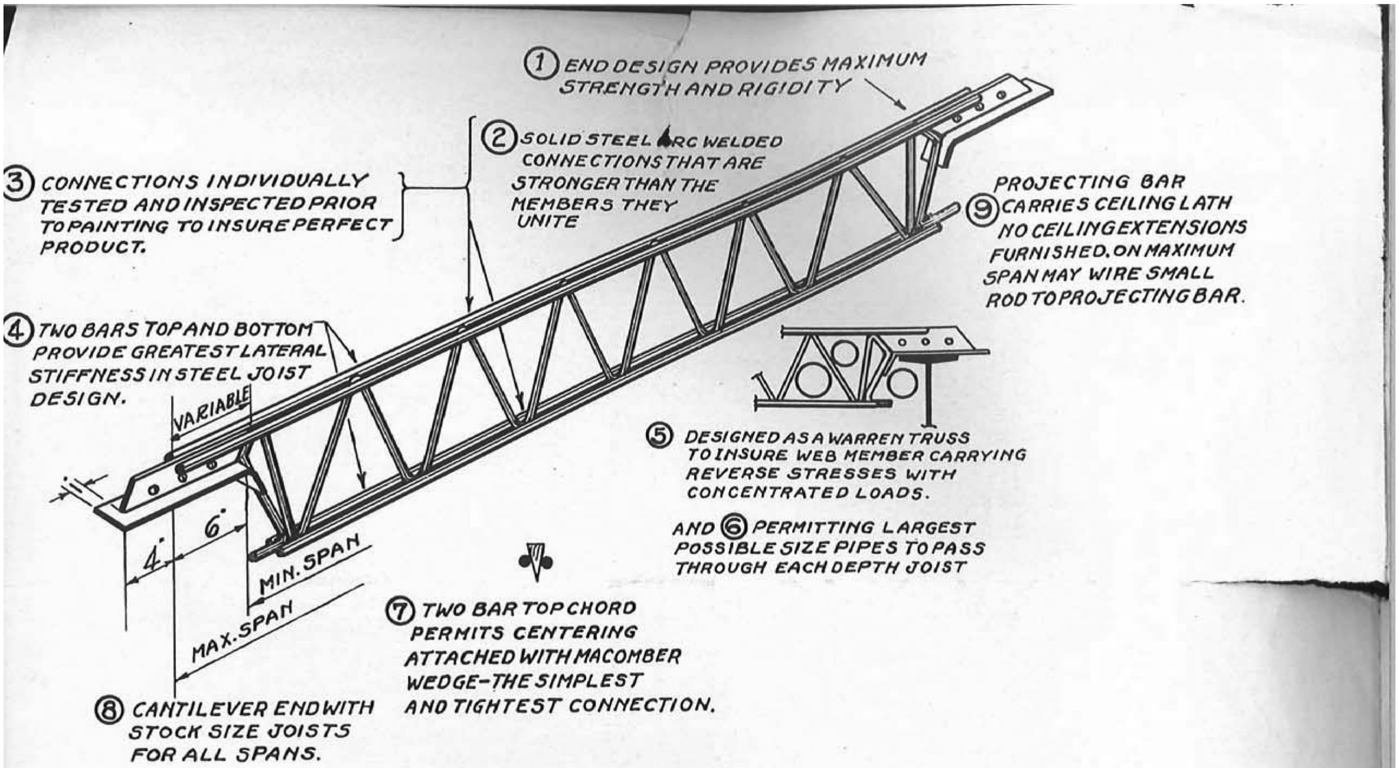
Attachment A Macomber Bar Joists 1 of 4

MACOMBER
BAR JOISTS



An Improved Product
Rugged - Dependable
Even More Practicable

THE MACOMBER STEEL COMPANY
CANTON, OHIO



The Macomber Bar Joist is designed to adequately meet the Steel Joist Institute specifications, the rough handling of field operations, and reasonable concentration applied during construction operations.

The Web Members are the most important member of a bar joist. The Webs of the Macomber joist are a round bar. This gives each compression member equal strength in all directions. The computation of the web strength is in accordance with standard practice, and no reliance is placed upon cross or secondary members.

The connections between the various parts of the Macomber joist are made by the electric arc welding process. Welding metal is added at each point of connection, and melded with the members. The result is a solid welded steel connection, dependable, durable and open to the closest field inspection. No metal is stretched or distorted in the manufacture of Macomber joists.

The Top Chord of the Macomber joists consists of two round bars spaced apart by the insertion between them of the web member. These round members, functioning in compression, have equal strength in all directions. The metal is grouped close to the connections and the spread of the bars gives a high degree of lateral rigidity. The Macomber top chord provides unusual opportunity for attaching metal lath and other accessory material items, in a definite and positive fashion.

The Bottom Chord of the Macomber joist consists of two round bars spaced apart by the insertion between them of the web member. This design is consistent with the top chord, and retains the top chord advantages in the bottom chord. The bottom bars are straight and connect at their ends with the end piece.

The Lateral Rigidity of the Macomber joist is an important item to the contractor. It not only makes erection work easier but gives less liability of failure in case of accidental excess construction load concentrations. An analysis of the cross section explains the greater ruggedness and lateral stiffness of this joist.

The End Piece of the Macomber joist is symmetrical and extremely rugged. The design of the end piece provides the span flexibility of the joist and supports the ceiling lath through to the wall. The bearing plate for each size joist is amply wide to give sufficient bearing area on masonry. This is important to the Architect.

The Span Flexibility of the Macomber joist has been an inherent factor of this joist from its first inception. Each standard joist can be used over a range of 12″ in span. This adaptability and flexibility enhance the value of the product to contractor and owner. It also gives a practically 100% salvage value.

The Ceiling: Because of the flexibility of span on which Macomber joists can be used, there may be a space between the end of the bottom chord of the joist and the supporting wall on beam. This condition is illustrated. The maximum distance of this space is seven inches and in the average installation is about three inches. Metal lath spans considerably more than seven inches as, for instance, between joists. The lath should always be fastened to the wall or beam in any case, and turned down for

Attachment A Macomber Bar Joists

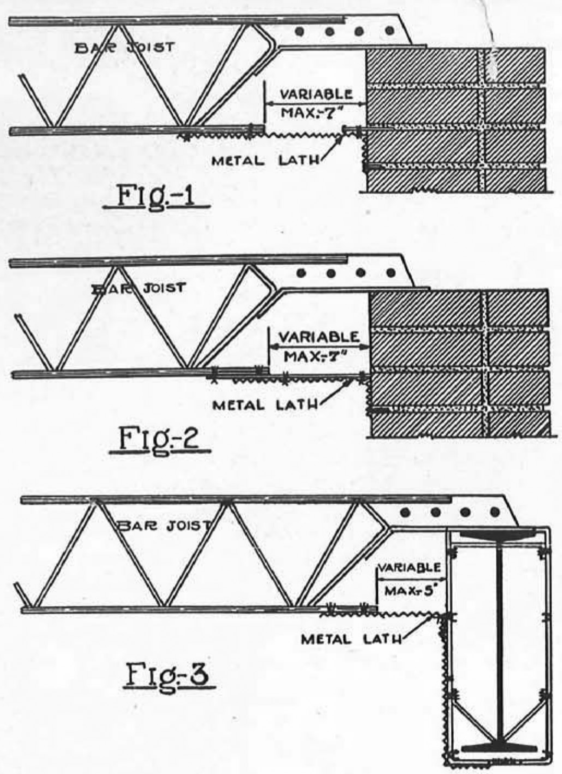


Figure No. 1

Metal Lath carried through to the wall turned down and nailed in place.

Ceiling lath should be turned down a few inches along walls to prevent corner cracking.

Figure No. 2

Showing a small rod or channel wired to the extension rod on the joist.

When for any reason it is deemed necessary to have special support across this short distance the contractor can supply a small rod and wire to the joist. In any case the lath should be turned down along the wall and nailed in place.

Figure No. 3

Metal lath extended to beam furring. Beam furring can be hung from the joists.

Even for this detail ceiling, lath should be turned down along beam furring. Being fastened on the support side the lath will space several times this distance as it does between joists.

Detail of ceiling construction at end of joist. **No annoying accessory necessary at this point for the contractor to store, handle or install. We do not furnish a ceiling extension.**

several inches. This to prevent corner cracking of plaster. No support is needed over this space. The details shown are practical, economical, and give positive results. Where for some reason support is desired, a short piece of bar, or small channel, can be furnished by the contractor, and wired to the bottom chord of the joist. In this fashion, the Macomber Joist has again been simplified and improved. Cost of applying ceiling lath is reduced and the trouble in handling of accessory materials eliminated.

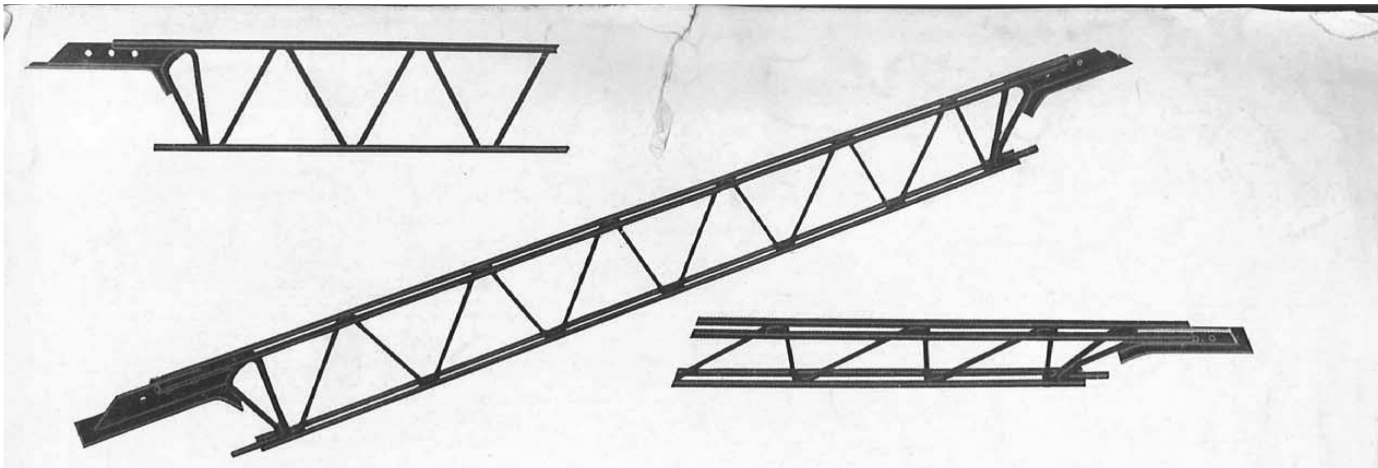
The Metal Thickness of the Macomber joist is a point of importance. After the completion of a building, the joists, a structural member, are in place out of sight to do their work for an indefinite period of time. Sturdy members, of good thick metal, have no disadvantage. Even on the smallest joists, down to four foot spans, no bar less than ⅜" in diameter, is used. Vertical plates ¼" in thickness are used, and bearing plates never less than 3/16" thick.

The Design of the Macomber joist is a warren truss. This provides for the webs taking care of concentrated loads at various points, gives a sturdy, dependable member, and all stresses are subject to simple calculations.

The Appearance of the Macomber joist gives the impression of reserve strength and capacity. It is symmetrical in section and well proportioned in length and depth. The round bars make the sturdiness of the joist apparent. It is painted with a dip coat of high grade black paint. Every line and detail of this joist evidences exactly what it is: a solid, self contained, rugged, practical, workmanlike device to do just one thing, and do it well, with the least amount of assistance.

The Macomber organization initially conceived the Bar Joist, and reduced its use to a practical basis. Improvements have been made in the details of the joist from time to time during the last eight years. The Macomber Bar Joist of today is the same design as the first product, but the refinements and improvements resulting from experience and practice, give it greater strength, ruggedness and durability. As a practical product for practical application by the Architect and the Contractor, we believe our improvements during the last year materially enhance its value.

We have a pardonable pride in being the originators of the Bar Joist, and have endeavored to maintain a high quality of product and service. In our humble opinion, the Macomber joist has not as yet been equalled for certainty in manufacture, definiteness and positiveness of design, dependability and all around sturdiness. We guarantee the product to function as the purchaser has a right to expect, and invite the most critical inspection, analysis and comparison. We believe that the Macomber joist embodies every meritorious feature that a bar joist should have, and which the buying public wants.



THE MACOMBER BAR JOIST
DESCRIPTIVE DETAIL

Joist Size	Minimum Bearing Area	Max. Bearing Stress Lbs. Per Sq. Inch	Area Top Chord	Area Bottom Chord	Area End Web Bar	Area Intermed. Web Bar	Area Center Web Bar	Area End Piece Bar
81	7.5	213	.3240	.2268	.162	----	.1134	.1963
82	7.5	212	.5104	.3926	.1963	----	.1134	.1963
102	7.5	214	.5104	.3926	.1963	----	.162	.2552
103	7.5	227	.6136	.5104	.1963	----	.162	.2552
104	11.5	170	.7264	.6136	.1963	----	.162	.3068
123	11.5	167	.6946	.4515	.2552	.1963	.162	.3068
ft. Rdg. → 124	11.5	175	.8602	.5620	.2552	.1963	.162	.3068
125	11.5	196	.8602	.7264	.2552	.1963	.162	.4301
126	11.5	192	1.041	.8602	.3068	.2552	.162	.4301
145	11.5	226	.8602	.7264	.3068	.2552	.1963	.4301
146	15.5	183	1.041	.8602	.3068	.2552	.1963	.5204
147	15.5	203	1.250	1.041	.3632	.3068	.1963	.5204
166	15.5	192	1.041	.8602	.3632	.2552	.2552	.5204
167	15.5	215	1.250	1.041	.3632	.3068	.2552	.5204

Standard loading tables giving the carrying capacity of the joists are all calculated in accordance with the specifications of the Steel Joist Institute and on the basis of the joists being braced laterally as in the finished floor construction.

For loading tables, information as to accessories, and prices, communicate with our nearest dealer or direct with our Canton Headquarters.

The Macomber Steel Company - Canton, Ohio

Attachment B Pyrobar Roof Tile 1 of 4

537-15.

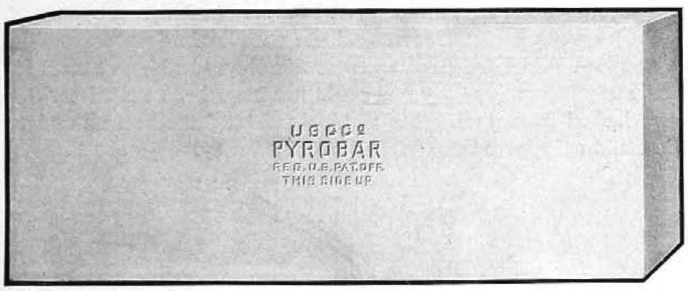
PYROBAR REINFORCED

GYPSUM ROOF TILE

Patented

and Ornamental Tile or Slate Covered Roofs

Tile laid on tee irons, spaced 30½ inches center to center.



3"x12"x30" Tile weighing 13 lbs. per square foot.

An Easy, Economical Solution of a Difficult Architectural Problem

The simplicity of Pyrobar Reinforced Gypsum Roof Deck Construction as applied to ornamental, mansard, pitched and domed roofs covered with slate, Ludowici or other ornamental tile, has made possible a return to roof embellishment hardly considered feasible in fireproof structures.

A light steel framing, some tee iron and Pyrobar Roof Tile and you have at your disposal a roof structure which can be moulded into graceful curves, relieved by dormers, pitched at pleasing angles, and covered with any roof covering. The roof is fireproof, permanent and of comparatively low cost.

The photographs reproduced here are examples of some of the recent applications of this construction. Where, except with Pyrobar Reinforced Gypsum Roof Tile, can you get a fireproof structure that can be treated as are these roofs?—one that you can mould at will?—one that any roof covering can be directly nailed to?

UNITED STATES GYPSUM COMPANY

205 WEST MONROE STREET :: CHICAGO, ILLINOIS

New York - Cleveland - Detroit - Minneapolis - Kansas City - San Francisco

PYROBAR Gypsum Roof Tile

for nailing purposes are made in two thicknesses—3 inches, solid, and 4 inches, hollow, each 30 inches long and 12 inches wide and weighing 13 lbs. per square foot. Made of gypsum, they offer both the lightest and most non-conductive fireproof roof deck known.

Economies in construction make them of lower cost "in the building" than other fireproof roof decks.

They are easily sawed and fitted to all roof requirements. They are adaptable to any type of roof covering. They can be laid under all weather conditions. In fact *PYROBAR* Gypsum Reinforced Roof Tile answer every roof deck requirement.

Where it is desired to nail roof coverings direct to the roof deck, specifications should read: " * * * roof deck to be made of *PYROBAR* Reinforced Gypsum Extra Dense Nailing Roof Tile."

Below are tables giving sizes of tee iron sub-purlins for various purlin spacings, and purlin sizes required for various spans, to support *PYROBAR* Roof Decks based on a total load of 50 lbs. per square foot. *PYROBAR* Roof Tile will carry 100 lbs. per square foot with a factor of safety of four.

SIZES OF CHANNEL PURLINS FOR PYROBAR TILE ROOFS.

TOTAL LOAD 50 LBS PER SQ. FT. INCLUDING WEIGHT OF ROOF.

PURLINS C TO C IN FEET	DISTANCE CENTER TO CENTER OF TRUSSES IN FEET.							
	10	12	14	16	18	20	22	24
4'-0"	4"-5¼	5"-6½	6"-8	7"-9¾	7"-9¾	8"-11¼	9"-13¼	10"-15
4'-6"	5"-6½	5"-6½	6"-8	7"-9¾	8"-11¼	9"-13¼	9"-13¼	10"-15
5'-0"	5"-6½	6"-8	7"-9¾	7"-9¾	8-11¼	9"-13¼	10"-15	12"-20½
5'-6"	5"-6½	6"-8	7"-9¾	8"-11¼	9"-13¼	10"-15	12"-20½	12"-20½
6'-0"	5"-6½	6"-8	7"-9¾	8"-11¼	9"-13¼	10"-15	12"-20½	12"-20½
6'-6"	6"-8	7"-9¾	7"-9¾	8"-11¼	9"-13¼	10"-15	12"-20½	12"-20½
7'-0"	6"-8	7"-9¾	8"-11¼	9"-13¼	10"-15	10"-15	12"-20½	12"-20½
7'-6"	6"-8	7"-9¾	8"-11¼	9"-13¼	10"-15	10"-20	12"-20½	12"-20½
8'-0"	6"-8	7"-9¾	8"-11¼	9"-13¼	10"-15	10"-20	12"-20½	12"-25

SPANS FOR STANDARD TEES SPACED 30½" CENTERS

TOTAL LOAD 50 LB. PER SQ. FT.

SPAN C-C PURLINS	SIZE T IRON
UP TO 5'-3"	2¼"×2¼"×4.1 LB.
5'-3" TO 6'-0"	2¼"×2¼"×4.9 LB.
6'-0" TO 6'-6"	2½"×2½"×5.5 LB.
6'-6" TO 8'-0"	3"×3"×6.7 LB.

Our Engineering Department is equipped to render valuable advice on the construction of roofs. Consult them without obligation. Pyrobar Roof Decks can be furnished in place ready for any kind of roof covering.

UNITED STATES GYPSUM COMPANY

World's Largest Producers of Gypsum Products

205 WEST MONROE STREET CHICAGO, ILLINOIS

New York - Cleveland - Detroit - Minneapolis - Kansas City - San Francisco


691.4
PYROBAR
REINFORCED
PATENTED
GYPSUM ROOF TILE
30-Inch Type
Solid and Hollow
PYROBAR
FIRE RESISTING
HEAT CONSERVING
LIGHT WEIGHT AND ECONOMICAL
TWO TYPES OF TILE PYROBAR Reinforced Gypsum 30″ Roof Tile are made in two types—"Solid" and "Hollow." Both types are individually factory moulded, insuring uniformity in size and weight and are made of "STRUCTOLITE," a specially prepared gypsum. All tile are reinforced with steel and are designed to carry the full roof load. Both types have face dimensions of 12″ x 30″. The solid tile are 3″ thick; the hollow tile are 4″ thick.
ECONOMICAL PYROBAR Reinforced Gypsum Roof Tile are economical in first cost, and as the decks are fireproof and permanent, the maintenance cost is nil. They are quickly and rapidly erected in any weather. The Tile weigh less than 15 pounds per square foot, which decreases the usual amount of supporting steel. These factors make PYROBAR ideal tile for meeting re-roofing problems.
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MILWAUKEE MINNEAPOLIS KANSAS CITY ST. LOUIS CINCINNATI DENVER OMAHA LOS ANGELES

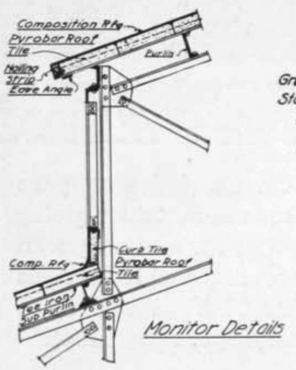
Data Required for Designing Pyrobar Reinforced Gypsum Tile Roofs

SIZES OF CHANNEL PURLINS FOR PYROBAR TILE ROOFS.
TOTAL LOAD 50 LBS PER SQ. FT. INCLUDING WEIGHT OF ROOF.

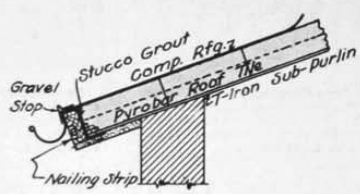
Purlins C to C in Feet	Distance Center to Center of Trusses in Feet.							
	10	12	14	16	18	20	22	24
4'-0"	4"-5¼	5"-6½	6"-8	7"-9¾	7"-9¾	8"-11¼	9"-13¼	10"-15
4'-6"	5"-6½	5"-6½	6"-8	7"-9¾	8"-11¼	9"-13¼	9"-13¼	10"-15
5'-0"	5"-6½	6"-8	7"-9¾	7"-9¾	8"-11¼	9"-13¼	10"-15	12"-20½
5'-6"	5"-6½	6"-8	7"-9¾	8"-11¼	9"-13¼	10"-15	12"-20½	12"-20½
6'-0"	5"-6½	6"-8	7"-9¾	8"-11¼	9"-13¼	10"-15	12"-20½	12"-20½
6'-6"	6"-8	7"-9¾	7"-9¾	8"-11¼	9"-13¼	10"-15	12"-20½	12"-20½
7'-0"	6"-8	7"-9¾	8"-11¼	9"-13¼	10"-15	10"-15	12"-20½	12"-20½
7'-6"	6"-8	7"-9¾	8"-11¼	9"-13¼	10"-15	10"-20	12"-20½	12"-20½
8'-0"	6"-8	7"-9¾	8"-11¼	9"-13¼	10"-15	10"-20	12"-20½	12"-25

SPANS FOR WHICH VARIOUS T IRONS SPACED 30½ INCH CENTERS WILL CARRY A TOTAL LOAD OF 50 LBS. PER SQUARE FOOT.

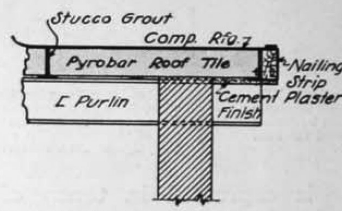
SPAN	SIZE T IRON
UP TO 5'-3"	2¼" × 2¼" × 4.2#
5'-3" TO 5'-10½"	2¼" × 2¼" × 5#
5'-10½" TO 6'-5½"	2½" × 2½" × 5.6#
6'-5½" TO 8'-0"	3" × 3" × 6.8#



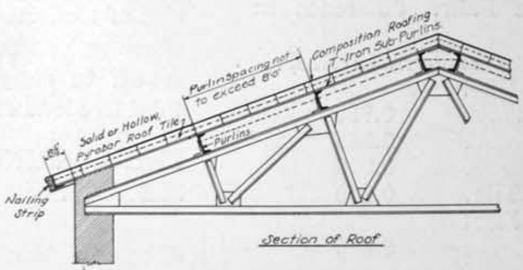
Monitor Details



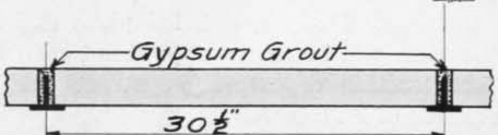
Detail at Eave



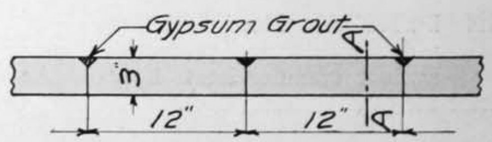
Detail at Gable - Brick



Section of Roof



Section A-A



Specifications for Pyrobar Reinforced Gypsum Roof Tile—30-inch Type

All roofs, as shown on plans, unless otherwise noted, shall be constructed of Pyrobar Reinforced Gypsum Roof Tile, 30" type (specify "solid" or "hollow"), manufactured by the United States Gypsum Company. The tile shall be placed directly upon roof supports without mortar and with sides tight together. All "grouting joints" of the tile shall be filled with gypsum grout, composed of one part unfibred gypsum cement plaster and three parts of clean, sharp sand.

Curbs under monitor or sawtooth sash, also the end walls of monitors or sawteeth, shall be constructed of 3" solid Pyrobar Tile set in gypsum cement mortar, the joints being well bedded and struck.

Note: Where it is desired to nail roof coverings directly to the roof deck, the above specifications should read "to be constructed of Pyrobar Long Span Reinforced Gypsum Roof Tile with Extra Thick Nailing Deck."

Cut nails or barbed slater's nails shall be used to fasten roof covering, and nails shall have at least 1½" penetration into the gypsum tile.

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R. T. 20

Masonry Review

Written by Darel Gabriel Bridges
in consultation with Ben Cawley
G. Drake Masonry, Dixmont, Maine
July 2013

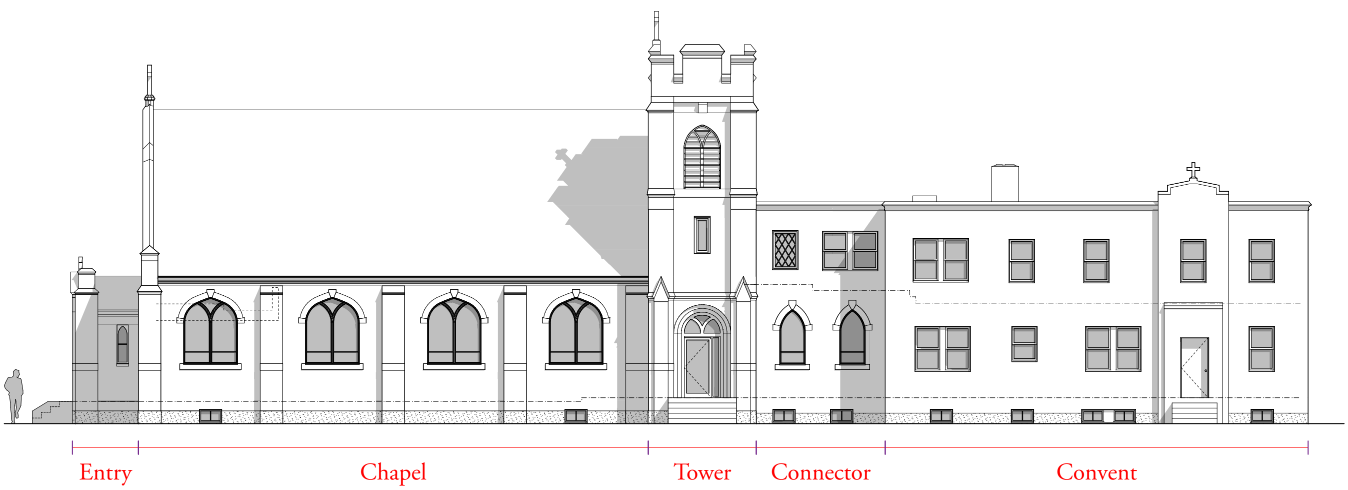
Structure

The structure is comprised of three primary buildings,

1. The Chapel, 56'x 36', 2,341 sq. ft.
2. The Convent, 47'x 32', 1,504 sq. ft.
3. The Bell tower, 10'x 10', 100 sq. ft.

   and two minor sections

4. The connector/vestibule, 15'x 22', 330 sq. ft.
5. The Entry, 7'x 12', 84 sq. ft.



Each of the structures is constructed of unreinforced, three (3) and four (4) wythe red clay brick and mortar. Additionally it is crenellated with double wythe, mortar bonded pilasters at corners and structural framing elements. Trim bands, window sills, quoins, caps and accent elements are pre-cast concrete covered in lead-coated copper. Additionally parapets, frieze mouldings, trim and ornaments are lead-coated copper. The base of the exterior walls from approximately 4" below grade to 1'-8" above grade is a 4" thick granite veneer, which faces three (3) wythes brick and rests upon the poured concrete foundation wall.

Windows at the Chapel are gothic arched stained glass, metal framed with wooden sash. Vent louvers at the bell tower are gothic arched, constructed of wood and covered with lead coated copper flashing, hand applied and nailed. Windows at the Convent are rectangular double-hung vinyl replacement units, formerly wooden double-hung with sash weights. All of the double hung windows at the Convent have a 3/8" thick steel lintel in the brick openings.

Field Observations

On June 13, 2013, we performed a field inspection of the masonry exterior and interior where accessible. No interior walls were removed or probed into. Observations were made where existing interior finishes had previously fallen away. Some exterior bricks were removed but beyond that, all observations were made from surface conditions. Our findings were as follows.

Overall there were seven (7) major issues which are uniformly consistent throughout the entire structure, they are:

1 Areas of what appear to be non-original brick from previous repairs indicated by color difference, size difference and lack of header courses.

2. Areas of extensive brick-face spalling due to incorrect re-pointing with high strength mortar.

3. Separation of Pilaster/Column from building at vertical joint.

4. Cracking in brick near granite veneer corner stones.

5. Deteriorated precast sills and blocks covered in lead-coated copper.

6. Corroded steel lintels over the windows of the Convent, due to severe water infiltration from the leaking roof saturating the brick walls.

7. Major vertical cracks in the exterior wythe of brick, both along mortar joints and through brick, due to a number of issues, mainly the water infiltration mentioned above but also due to freeze/thaw causing movement and settling in the veneer stone base and elsewhere.

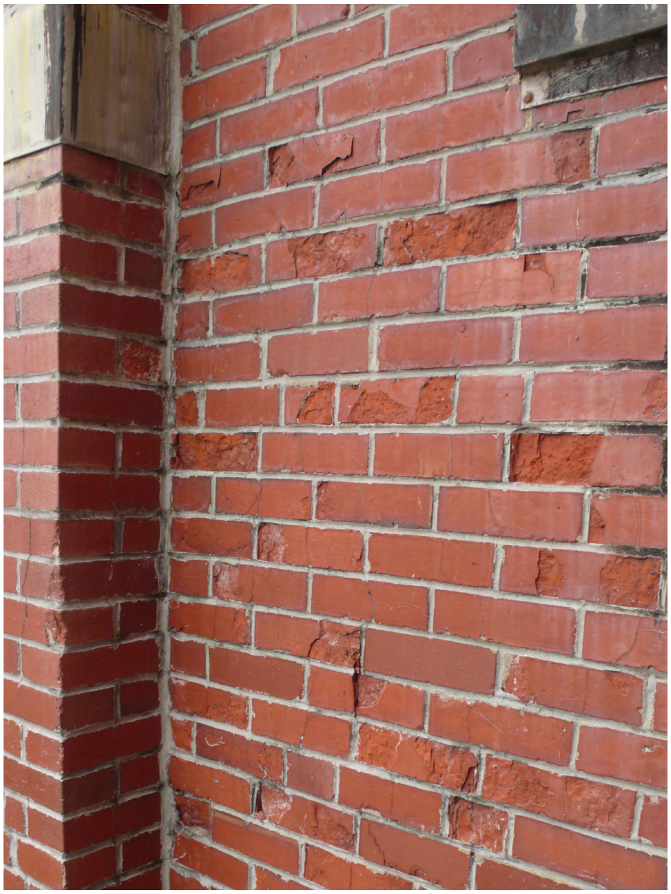
Areas of non-original brick

No records of previous construction and repairs after 1928 were available for this survey so we have no way of knowing in specificity when, where or to what extent repairs were made. All we have is the observed existing conditions of the building which do indicate that numerous repairs were made on every facade of the exterior, many of them extensive and covering up to forty to sixty percent of the building. There appear to be at least five (5) different types of brick from the original and repairs The quality of these repairs varies widely

Areas of non-original brick from previous repairs can be seen throughout the building exterior. Differences in color, texture, manufacturer and size of the brick are easily seen in this photo.

from extremely poor to barely adequate. It's very likely to assume from conjecture that some of the repairs may have been carried out by non-skilled masons, perhaps a local builder going to the local lumber store and simply buying whatever bricks they had in stock along with a bag of mortar. The bricks from the numerous repairs vary, ranging from water-struck, to wire-cut, different colors, often varying by size, with no attempts to match courses or pattern. Historic, creme-colored mortar with larger sand aggregate and softer, more porous composition sits alongside smooth, dense, high cement ratio, light gray mortar.

When a skilled mason makes repairs to a historic building, an attempt is made to match both the brick (size, density, color, manufacturer) and the mortar (color, composition, aggregate, and hardness (good record keeping would have helped greatly in this area.) There appears to be none of that meticulousness applied to many of the latter repairs, which also suffer from shoddy workmanship, which is now contributing to the rapid deterioration of large areas of the exterior brick facade on all sides. It should also be noted that the deterioration of the exterior brick is generally consistent around the entire building but the Convent building suffers more due to the added problem of the leaking roof saturating the bricks continuously and exacerbating the deterioration.



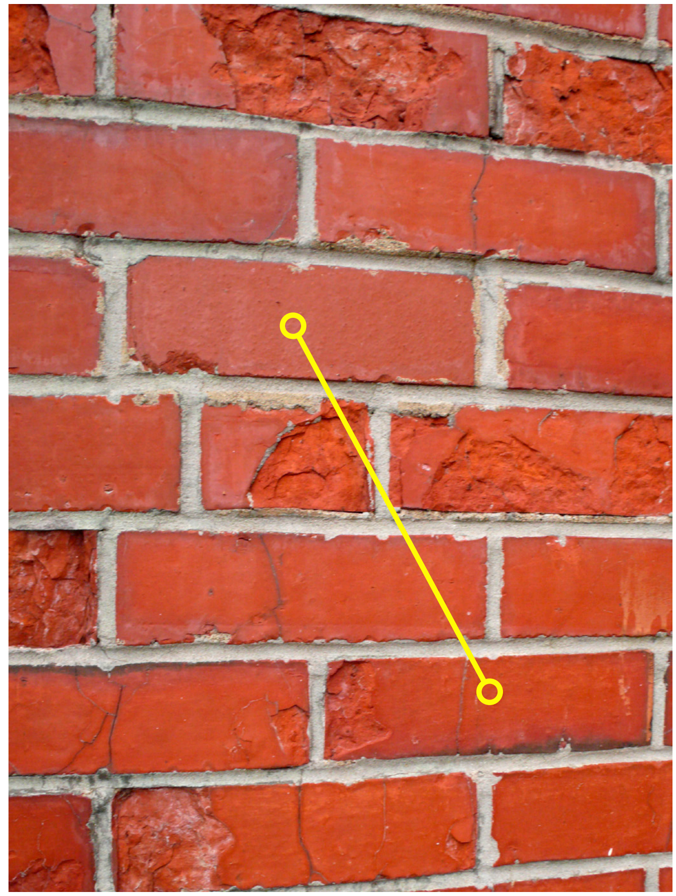
An example of the extensive brick face spalling.

Areas of extensive brick face spalling

Extensive areas of the exterior on all sides are now showing signs of severe brick spalling, most likely due to improper repointing with high strength mortar.

Spalling is a condition of the brick breaking apart into smaller pieces causing the face of the brick to flake off.

Spalling is caused primarily by the bricks becoming over saturated with water while going through repeated freeze/thaw cycles. Over time, the action of freezing, which expands the water, along with temperature differential between the interior and exterior, slowly fractures the aggregate bonds on a microscopic level. Shear lines form along weaknesses in the brick reducing it to flaking shards, which peel off at the surface. At this point the structural integrity of the brick is lost and the only remediation is to replace the brick entirely..



Close up of the spalling. Note the different colored / sized bricks on the top and bottom and the sloppy re-pointing with various mortars.

Spalling due to incorrect re-pointing with high strength mortar

For all its history, until the mid 1800's, masonry mortar, the material which holds the brick units together consisted primarily of lime and sand. Traditional mortars were made from lime putty, or slaked lime, combined with local sand, generally in a ratio of 1 part lime putty to 3 parts sand by volume. Often other ingredients, such as crushed marine shells, brick dust, clay, natural cements and pigments, were also added to mortar, but the basic formula remained unchanged for centuries until the advent of Portland cement.

Portland cement, patented in 1824, a fast-curing, hydraulic cement, was first manufactured in the United States in 1972 but did not see widespread use until the early 1900's. At first, it was used as an additive in small amounts, to accelerate mortar set time. Later though, masons began using equal parts Portland cement and lime putty. The composition of mortar found in masonry structures built between 1873 and 1930 can range from pure lime and sand mixes to a wide variety of lime,

Historic mortar on the left with newer mortar on the right. The older mortar has a larger aggregate is more porous and is softer. The newer mortar is smoother, harder and less porous. The latter is bad for the brick because it transfers all of the stresses to the brick (which is hard to replace) rather than the mortar (which is easier to replace.)

Portland cement, and sand combinations. In the 1930's, new products were introduced which were intended to hasten and simplify the mason's work. One of these products was *masonry cement*, a premixed, bagged mortar which is a combination of Portland cement and ground limestone, and hydrated lime, machine-slaked lime that eliminated the necessity of slaking quicklime into putty at the site.

National Park Service, Preservation Brief #2 states that; "Masonry cement is a preblended mortar mix commonly found at hardware and home repair stores. It is designed to produce mortars with a compressive strength of 750 psi or higher when mixed with sand and water at the job site. It may contain hydrated lime, but it always contains a large amount of Portland cement, as well as ground limestone and other workability agents, including air-entraining agents. Because masonry cements are not required to contain hydrated lime, and generally do not contain lime, they produce high strength mortars that can damage historic masonry. For this reason, they generally are **not recommended for use on historic masonry buildings**." The reason it is not recommended is that it is substantially harder than historic mortars.

The issue of mortar hardness is important. Traditional lime mortars were very soft, having a compressive strength of 40-50 pounds per square inch (psi.) With the addition of Portland cement, the mortar can achieve a compressive strength of up to 2,500 psi.

An important dynamic of brick construction is that the mortar, which is softer than the brick, accepts the stresses within a wall caused by expansion, contraction, moisture migration, or settlement. The mortar also transfers the moisture from interior to exterior and acts as a flow pathway for moisture migration. Because of this the mortar takes all the wear caused by the stresses in the wall and becomes in a sense, the "sacrificial layer" in the brick wall assembly. Mortar joints are intended to be replaced (by re-pointing) on a regular basis, usually every thirty or so years, depending on exposure and wear.

"Mortars for re-pointing should be softer or more permeable than the masonry units and no harder or more impermeable than the historic mortar to prevent damage to the masonry units. It is a common error to assume that hardness or high strength is a measure of appropriateness, particularly for lime-based historic mortars. Stresses within a wall caused by expansion, contraction, moisture migration, or settlement must be accommodated in some manner; in a masonry wall, these stresses should be relieved by the mortar rather than by the masonry units. A mortar that is stronger in compressive strength than the masonry units will not "give," thus causing stresses to be relieved through the masonry units—resulting in permanent damage to the masonry, such as cracking and spalling, that cannot be repaired easily.

While stresses can also break the bond between the mortar and the masonry units, permitting water to penetrate the resulting hairline cracks, this is easier to correct in the joint through repointing than if the break occurs in the masonry units.

One of the bricks removed from a badly deteriorated pilaster..

Permeability, or rate of vapor transmission, is also critical. High lime mortars are more permeable than denser cement mortars. Historically, mortar acted as a bedding material—not unlike an expansion joint—rather than a "glue" for the masonry units, and moisture was able to migrate through the mortar joints rather than the masonry units. When moisture evaporates from the masonry it deposits any soluble salts either on the surface as efflorescence or below the surface as sub florescence. While salts deposited on the surface of masonry units are usually relatively harmless, salt crystallization within a masonry unit creates pressure that can cause parts of the outer surface to spall off or delaminate. If the mortar does not permit moisture or moisture vapor to migrate out of the wall and evaporate, the result will be damage to the masonry units." *Excerpted from National Park Service, Preservation Brief #2, Repointing Mortar Joints in Historic Masonry Buildings.*

The National Park Service provides the following recommendations for the re-pointing of historic brick buildings.

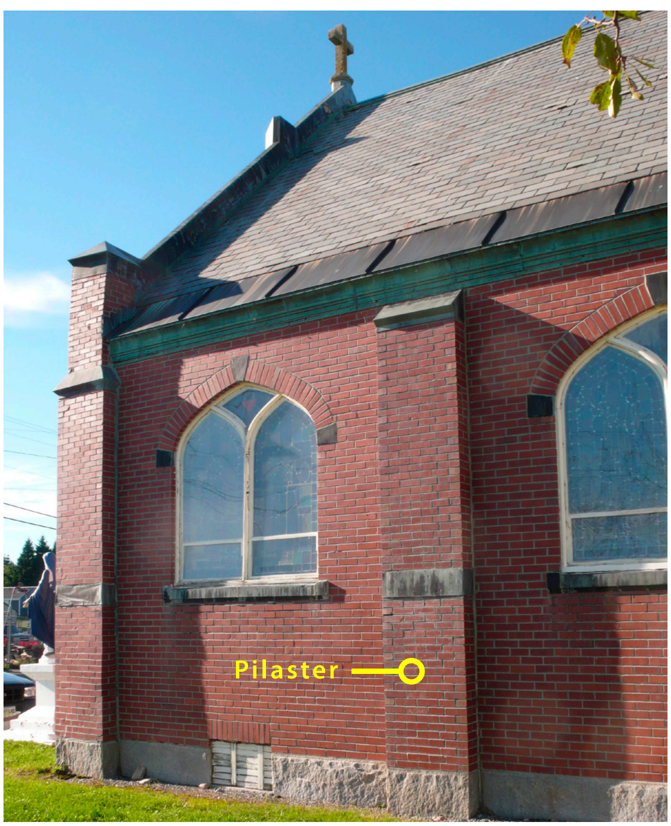
• The new mortar must match the historic mortar in color, texture and tooling. (If a laboratory analysis is undertaken, it may be possible to match the binder components and their proportions with the historic mortar, if those materials are available.)

• The sand must match the sand in the historic mortar. (The color and texture of the new mortar will usually fall into place if the sand is matched successfully.)

• The new mortar must have greater vapor permeability and be softer (measured in compressive strength) than the masonry units.

• The new mortar must be as vapor permeable and as soft or softer (measured in compressive strength) than the historic mortar. (Softness or hardness is not necessarily an indication of permeability; old, hard lime mortars can still retain high permeability.)

Mason Ben Cawley inspecting a pilaster on the North facade. Note the 1" gap between the pilaster and wall. Mortar has deteriorated and water is penetrating deep into the wall cavity.



Separation of Pilasters from building

The facade of the church is crenellated with a series of pilasters (embedded columns of double wythe brick extending from the exterior walls) which act as architectural ornament on the chapel and the tower. At the chapel they follow the bearing lines of the steel roof trusses and could potentially be seen as adding structural reinforcement (strengthening the wall against exterior bowing), though currently they have no effect as they are joined by a mere mortar bond which is now deteriorated and unattached. Since all of the pilasters on the chapel appear to be replacement brick, the originals may have indeed been intended to carry load from the roof trusses and strengthen the wall at that area. The earlier original pilasters, if intended to serve this purpose would likely have been integrated with the exterior wall with header courses extending into between the pilaster and wall

Examples of vertical cracking. On the left, an inferior repair creates a contiguous mortar joint, creating a line of weakness,which makes the cracking inevitable.

effectively tying the pilasters to the main structure

Currently, all of the replacement pilasters are separating from the exterior walls to a greater or lesser degree. In the worst case (on the North side) there is a 1" between pilaster and wall. These gaps allow wind driven rain to penetrate deep into the exterior wall. Saturating the interior brick and mortar. This, along with the freeze/thaw cycle, hastens the deterioration of the wall assembly. I should be noted that conditions like this start the deterioration slowly but the damage increases exponentially as the cause goes untreated. A problem that might have been fixed easily (and inexpensively) ten years ago now requires complete (and costly) replacement. This applies to the building as a whole. At this point, all of the pilasters are severely deteriorated , some to the point where the interior mortar has liquefied to a wet mud and the only thing holding the bricks together is gravity and capillary action.

Vertical cracking in brick

All the exterior faces of the building show large, prominent areas of vertical cracking, both along mortar joints and through the bricks. There are also several instances of cracking in the veneer stone base. It is important to note that all of the observed cracking appears to be only in the exterior wythe of brick, not on the interior 2-3 wythes. This would indicate that the damage is caused by the action of improper re-pointing creating stresses in the wall such as expansion, contraction and moisture migration

Lead coated copper flashing covering a precast concrete block. Here the flashing has been damaged, revealing the concrete underneath.

Deteriorated precast sills and blocks covered in lead-coated copper

All of the trim, ornamentation, blocks, sills, quoins, column caps, parapets and various other details are shop fabricated, cold-formed, soldered, 20-gauge, lead coated copper sheet flashing. In the case of the trim bands, window sills and tower ornamentation, the copper covers precast unreinforced concrete blocks witch are integrated with the brick masonry and bonded with mortar. The copper flashing is applied in the field during

Here, the lead coated copper flashing has been removed, exposing the precast concrete block.

construction with exposed ends being terminated in the mortar joint.

The condition of the copper around the building is generally in fair to poor condition, with the worst areas being around the advanced brick deterioration.

In some areas, the flashing has been peeled back, deformed or removed completely. Replacement and repair is recommended.

Corroded steel lintels

This problem of corroded steel lintels is unique to the Convent building, where the rectangular window openings have a plate steel lintel above the window

Corroded steel lintel over one of the convent windows.

unit which supports the window header course in these locations, the lintels are severely corroded due to the leaking of the convent roof causing the brick exterior walls to be in a state of constant water saturation. The lintels should be checked for structural integrity and replaced as necessary.

Other issues and concerns

The south facing wall of the convent in the area of the kitchen and 2nd floor living room exhibits a significant outward bulge in the exterior wall. It's unknown what the exact cause may be but it may be related to the large water leak in the ceiling of the convent at the second floor, Dorm Room-3. There is a significant buckling of the hardwood floor in this room as water is constantly dripping from above. There is also severe rotting of the wood floor and ceiling in the kitchen. The deformation of the exterior wall may be caused by the swelling of the wood floors or the steel bar joists becoming unattached from the wall due to corrosion.

Lead-coated copper metal panels contain 12 to 15 lbs. of lead per 1,000 square feet. As the lead oxidizes, it gives off dust over the life of the material – as high as 800 times the Massachusetts Department of Environmental Protection clean-up standards for soil. Metallic lead and lead dust are toxic, especially to children and can

Photo of the roof of the Convent showing the severe ponding and former membrane roofing system, now uselessly piled up. This roof is completely unprotected and porous, distributing water into the building interior on a year round basis. This is the cause of nearly all the deterioration of the Convent section.

damage their brain development, nervous system, liver, and kidneys. Children can become poisoned by inhaling lead dust or putting items that have lead or lead dust on them in their mouths. Lead dust can also be harmful to adults, particularly pregnant women.

Conclusion

The exterior brick of the building is in a state of severe deterioration in many areas (40-60% of the building.) There is more damage showing on the Convent because of the problem of the leaking roof. Most of the overall damage appears to be in the outer wythe only, In all the areas we were able to see the inner brick walls they appear to be in very good condition. This would indicate that most of the damage is on the outside surface only,

Water leaking from the roof of the convent causing rusting of the steel frame of a priceless stained glass window. Without immediate attention this window will be lost in a few years.

and that the walls, as a whole, maintain a good amount of structural integrity. This would suggest that a brick restoration for most of the building would not require a rebuilding of the entire wall but simply resurfacing the outer layer of brick.

Recommendations

The building exterior is in a severe state of deterioration. Shoddy workmanship and cheap cost cutting measures have helped to create a worsening situation. Forty to sixty percent of the exterior walls are in need of partial or complete replacement of the exterior layer of brick. When this brick is repaired and replaced the contractor needs to follow the guidelines specified in the National Park Service Preservation Brief #2, *Repointing Mortar Joints in Historic Masonry Buildings (see Appendix p. 95.)*

When replacing lead coated copper, similar looking copper sheathing materials without lead are readily available for use in construction and renovation. These should be used for all replacement to lessen the hazards of lead exposure in the community.

The problem of the Convent roof (with its severe ponding) has created severe deterioration throughout the entire structure. This might have been prevented with a prompt repair. For the cost of a $15,000 repair the church now faces losing $600,000 - $900,000 worth of building (at a replacement cost of $200/sq. ft.). If the membrane roof is replaced it needs to be carried out by a reputable and experienced contractor, with consideration given for extreme negative-pressure uplift caused by very high winds coming off Passamaquoddy Bay

Cost of brick repairs are not inexpensive. The cost (in 2013) for the type of surface repairs needed (complete replacement of the outer layer of bricks) would be around $40-$50 per square foot of brick surface. At this price, a complete surface refinishing would be approximately $250,000 to $315,000. Not all of the brick needs replacing but enough of it does to assume that total costs would be close to this approximation.

Below is a table of approximate brick square footages for the various sections of the building.

Chapel		*Sq. Ft. of Brick Surface*
	West	650
	South	625
	East	139
	North	625
	TOTAL	**2,039**

Tower		*Sq. Ft. of Brick Surface*
	West	250
	South	350
	East	400
	North	150
	TOTAL	1,150

Connector		*Sq. Ft. of Brick Surface*
	South	250
	North	250
	TOTAL	500

Convent		*Sq. Ft. of Brick Surface*
	West	180
	South	875
	East	660
	North	900
	TOTAL	2,615

	Total Sq. Ft. of Brick Surface
TOTAL	**6,304**

View of the church from the Southwest.

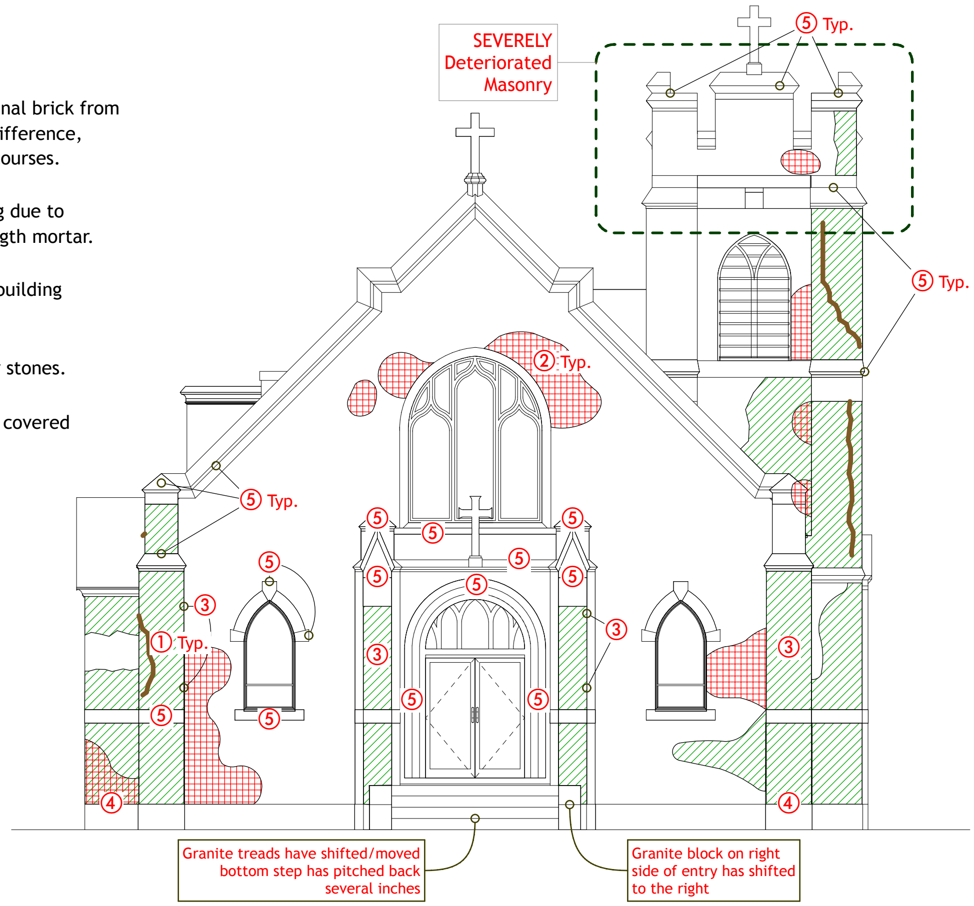
Looking down along the line of the eave trim of the Chapel showing the lead coated copper trim and pilaster caps.

Advanced brick deterioration on the North side of the Chapel.

Another view of the ponding on the Convent roof. The former membrane roof is piled up and useless. All of this water is working its way into the building

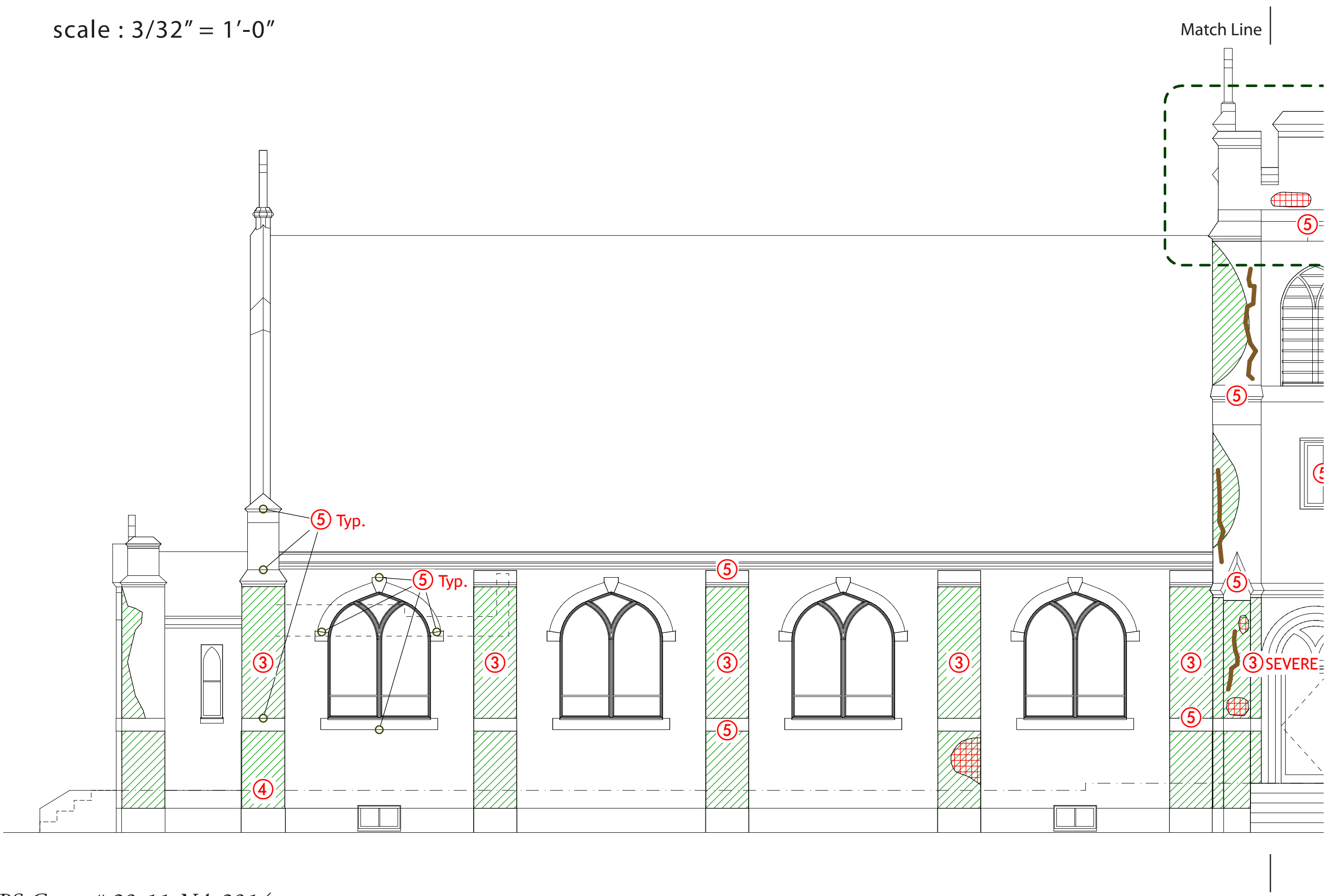
MASONRY KEY

1. Areas of what appear to be non-original brick from previous repairs indicated by color difference, size difference, and lack of header courses.
2. Areas of extensive brick face spalling due to incorrect re-pointing with high-strength mortar.
3. Separation of pilaster/column from building at vertical joint.
4. Cracking in brick near granite corner stones.
5. Deteriorated precast sills and blocks covered in lead-coated copper.
6. Corroded Steel Lintels.
7. Major vertical cracks in brick.



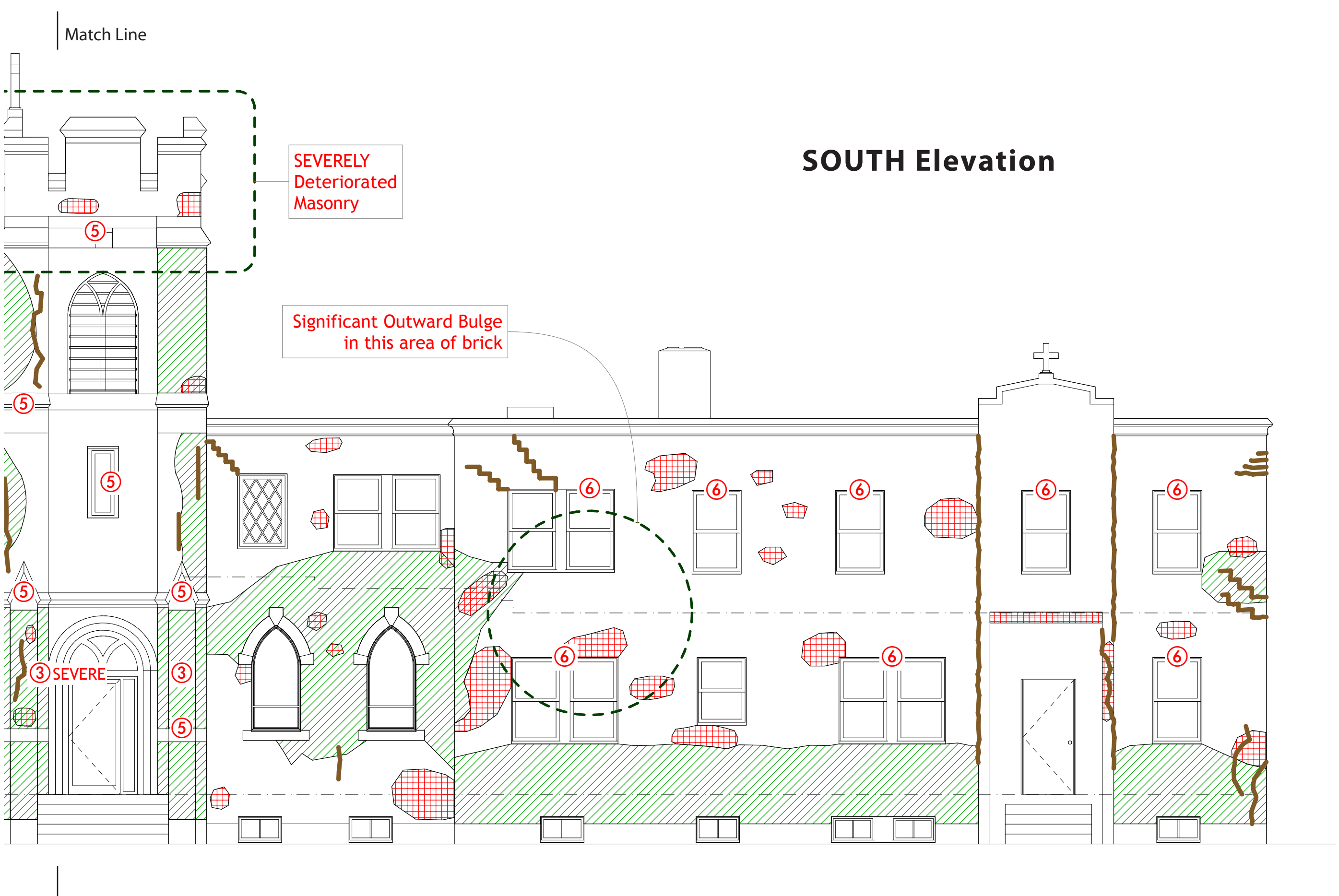
WEST Elevation

scale : 3/32" = 1'-0"



SOUTH Elevation

SOUTH Elevation



MASONRY KEY

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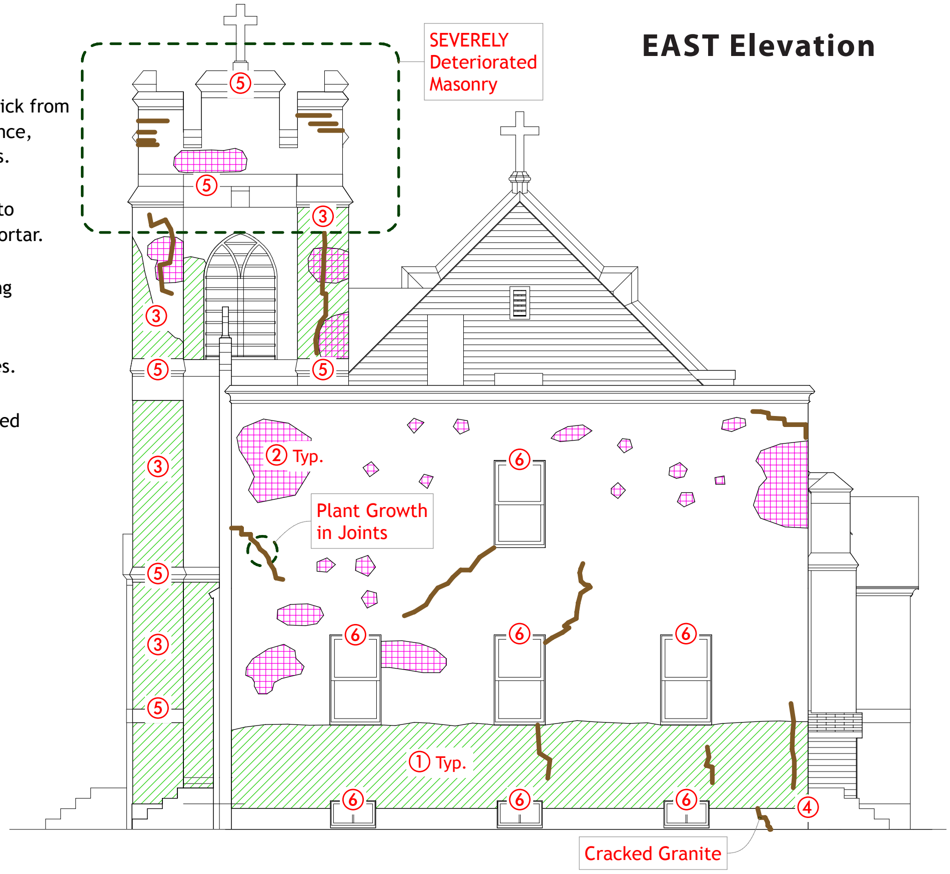
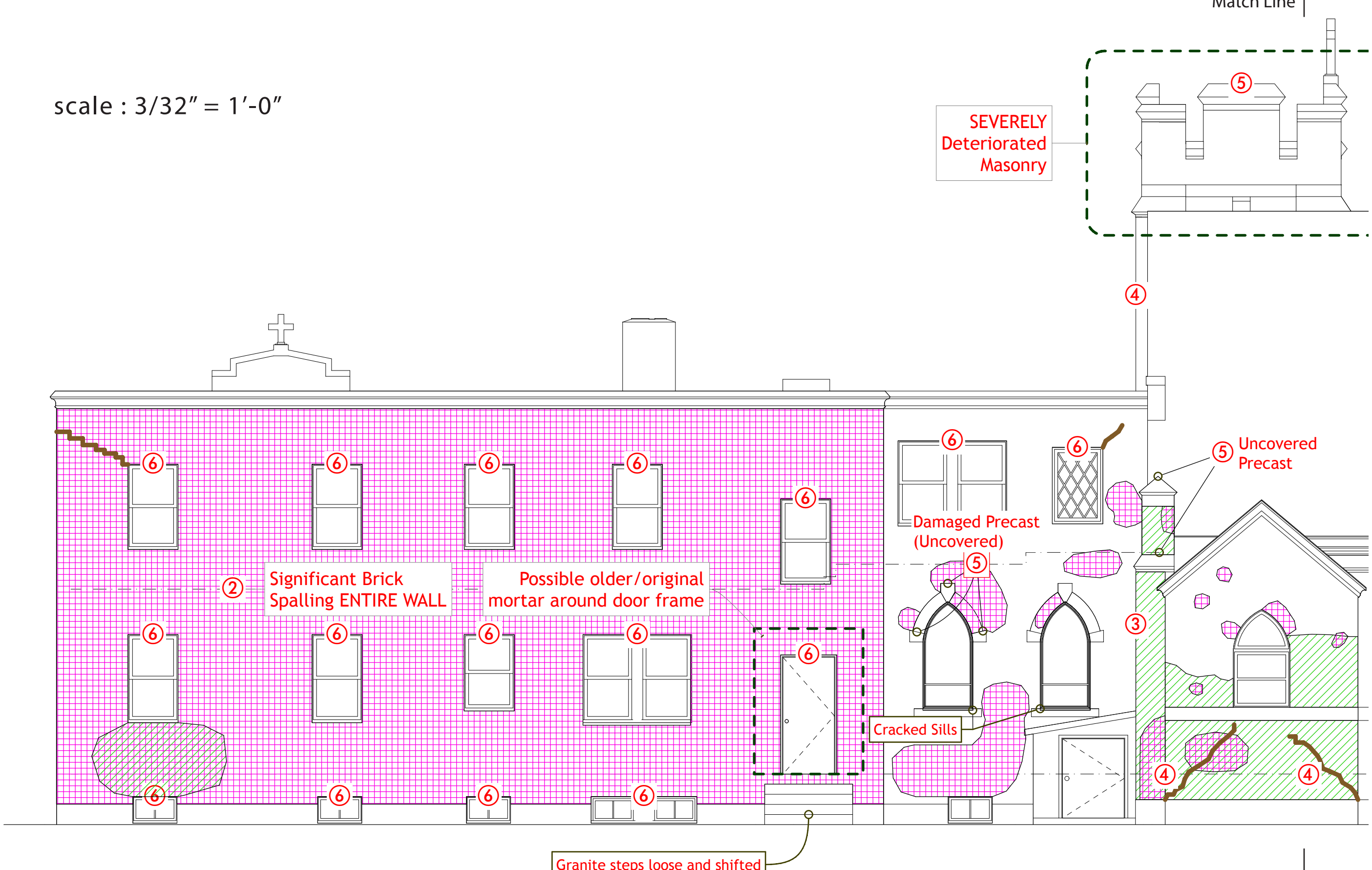
EAST Elevation



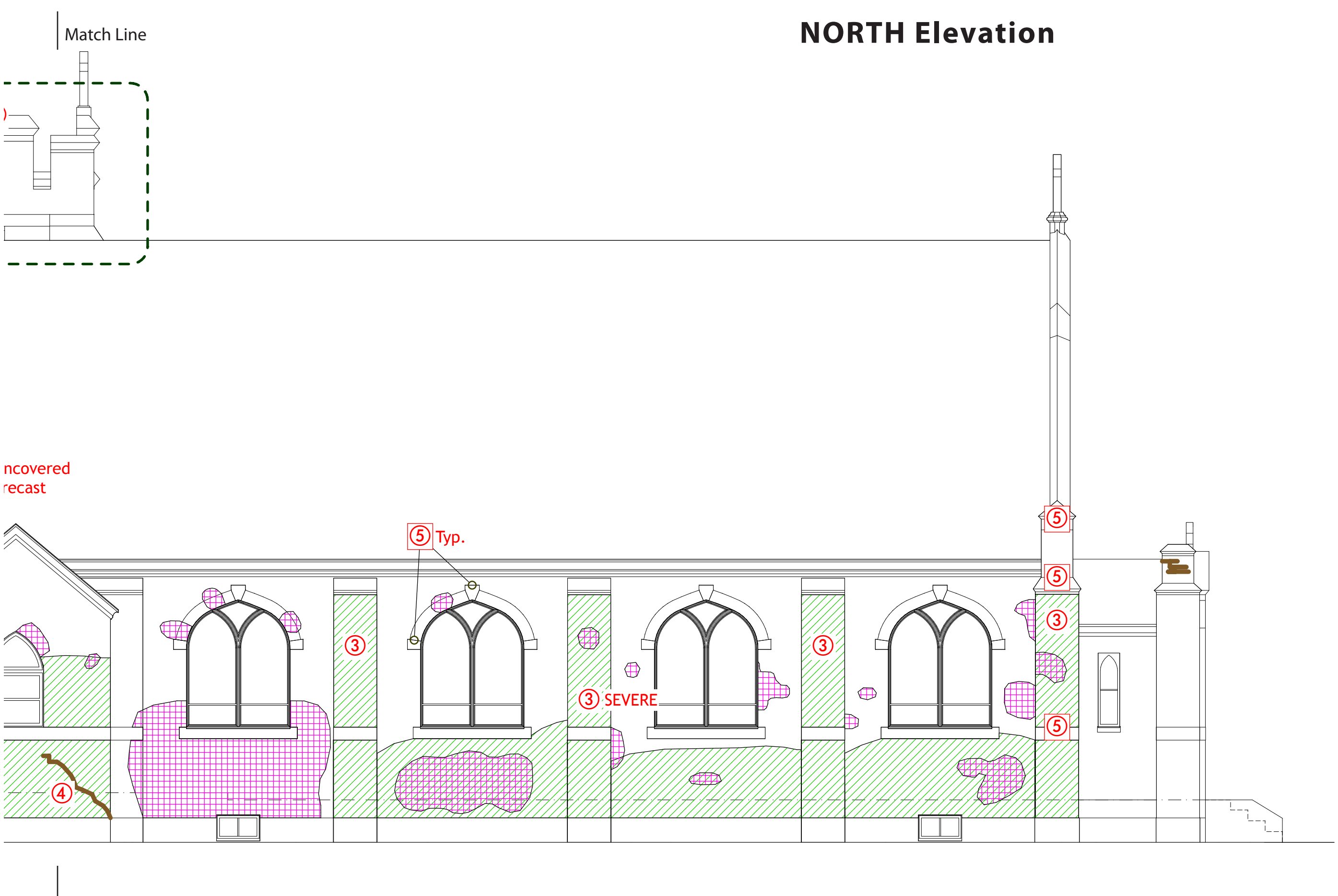
scale : 3/32" = 1'-0"

Match Line



NORTH Elevation

NORTH Elevation

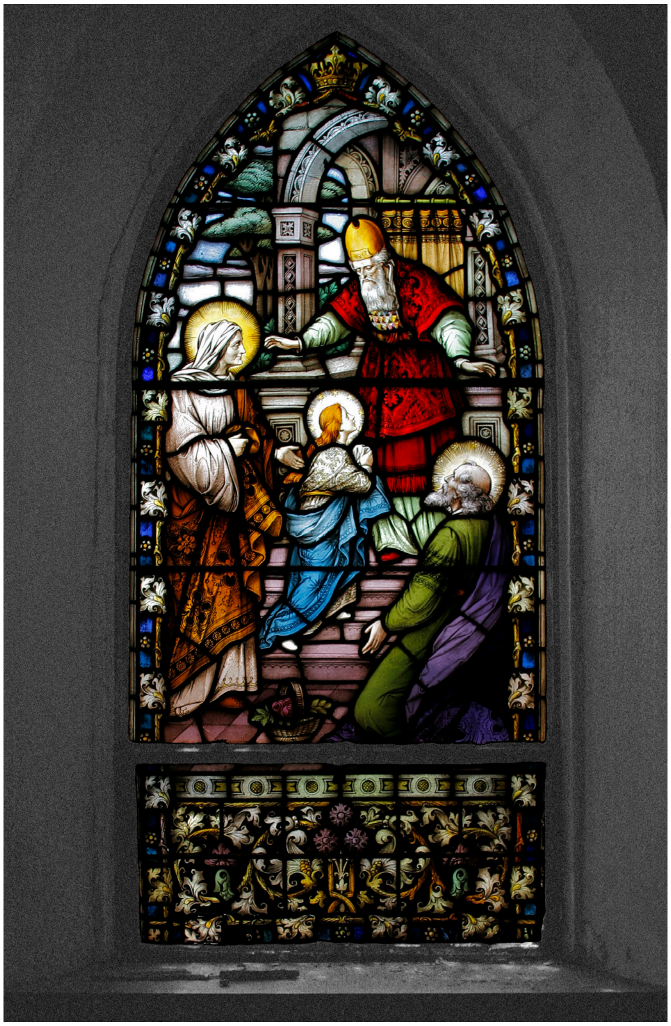


Stained Glass Window Survey

Bryony Brett.

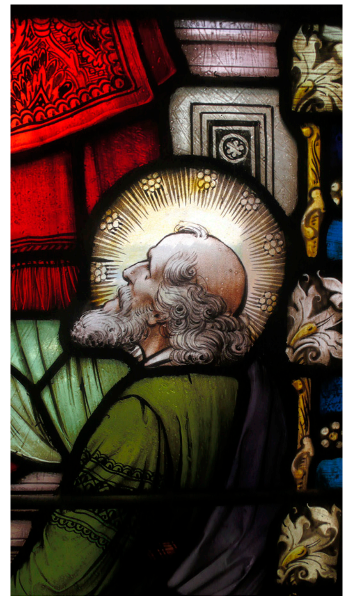
Bryony Brett Stained Glass, Portland, Maine

July 2013



One of the four marvelous "English" style windows in the vestibule depicting scenes from the life of Christ. Its rich, chromatic depth and skilled brushwork distinguish it as a masterpiece of the art.

This report evaluates the condition of 19 windows in situ in St. Anne's Church, including the windows, the sash in which the windows are installed, and the protective coverings. In our estimate these windows are historically valuable for a variety of reasons, including the unique nature of their compositions, but this is not an evaluation of value, nor an assessment of cost to restore and preserve these windows.

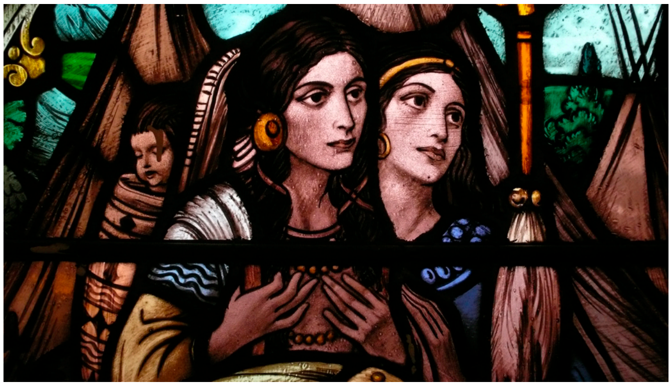


Detail of the window at the left showing the exquisite brushwork and modeling of the figures. The striations and bubbles in the glass indicate that it is hand-blown.

The report has three parts, preceded by an introduction with definition of terms.

- **Part One is a general assessment of issues that are common to all windows examined;**
- **Part Two is a recommendation for Preservation with a description of high priority issues that should be addressed immediately.**
- **Part Three is a detailed assessment of each individual window detailing the breaks and cracks in the glass, condition of the lead came, putty, sash, support bars and ties, as well as the bowing or buckling of the windows. Of primary concern for each window is the loss of structural integrity;**

This evaluation was conducted on June 15th and 16th, 2013. All windows were examined from both an interior and exterior perspective, but exterior drawings are only included for those windows with significant exterior concerns.

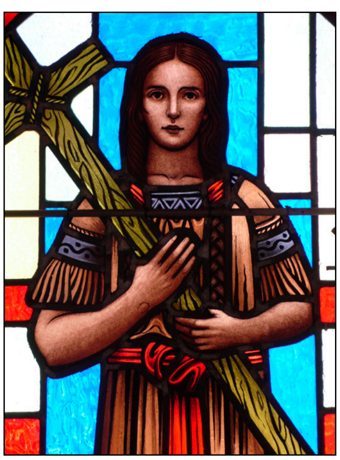


Detail from the large, Franz Mayer window on the West facade above the entrance.

Definition of Terms and Symbols used in this report:

Fracture:
Thin, linear cracks in glass that do not significantly affect the aesthetics or the integrity of the window; most fractures do not require repair but should be monitored.

Breaks:
Glass that is significantly damaged or missing; or glass with multiple fractures. Areas identified as breaks need repair; in most cases these breaks compromise the exterior envelope of the building.



Detail from one of the double portrait windows in the chapel. This one depicting the Native American saint, Kateri Tekakwitha.

Lead Came and Putty:
These are the materials that surround the glass, holding it in place, preventing the incursion of air and moisture. Deterioration of the putty allows the glass to loosen within the lead came. Dry putty should be monitored and renewed when necessary. Metal fatigue shows up as hair-line cracks in the lead. This is a sign that the lead has lost its strength, is no longer supporting the glass, and must be repaired.

Bowing:
Sometimes referred to as "buckling", "bending" or "bulging"; these are areas where the window has deviated measurably from the linear plane, often caused by failure of support, or by heat buildup in the window which has caused the lead came to weaken. Minor bowing should be monitored, severe bowing must be repaired before the window fails structurally, resulting in glass separating from the came, falling, and breaking. In addition, the factors causing the buckling should be identified and addressed. Bowing compromises the integrity of the lead surrounding the glass, therefore bowed windows must be re-leaded.

The metal frame is badly rusted, protective glass is broken and the stained glass is severely bowing. This window is in danger of being lost if the problem is not corrected soon.

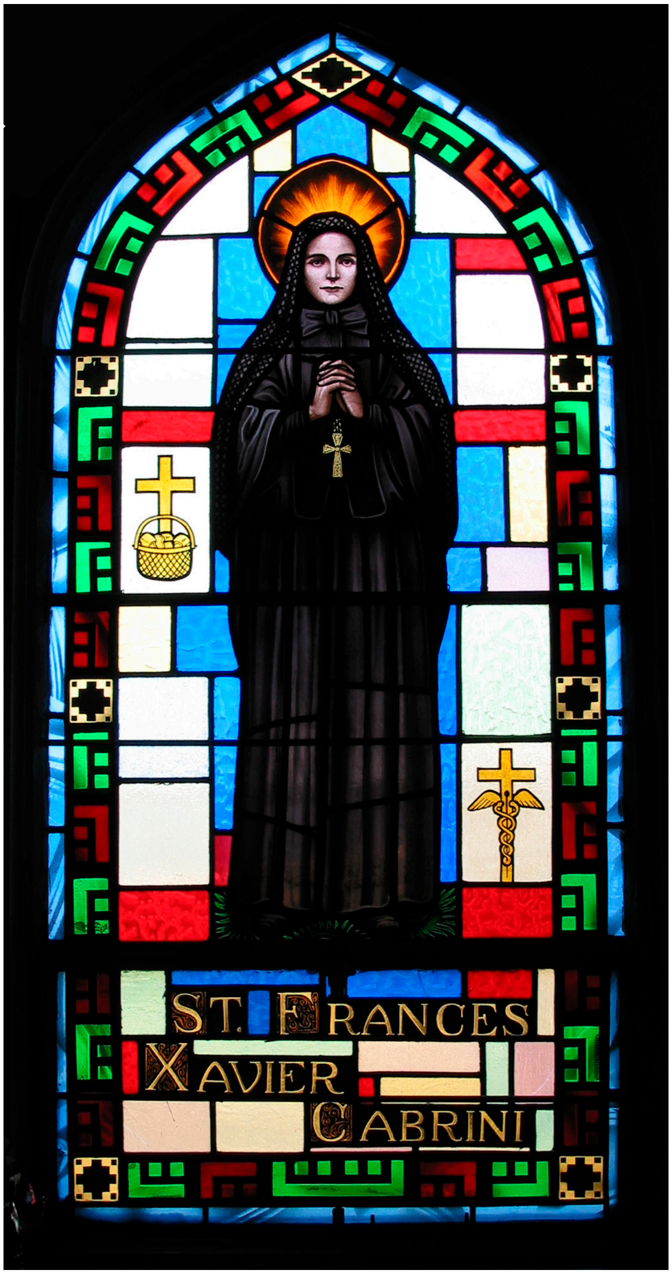
Support Bar and Ties:
Support bars are the steel rods that span the window horizontally to support the glass. They are fixed at either end in the sash. Support bars are attached to the window by wire ties that are soldered to the lead came and twisted around the support bars. This report assesses the condition of the bars, the ties, and the connection of both ties and bars to lead and sash.

Sash and Putty:
The wood or metal that surround and support the window and the support bars; windows are glazed into the sash with putty; this report assesses the condition of the sash and the putty.

KEY

Window damage in supporting photographs indicated as follows:

1 Broken painted piece
2 Broken piece
3 Supporting Bar/Ties
4 Fracture
5 Lead



Panel from one of the large double portrait windows in the Chapel. This group of eight windows is distinguished by their stylized human forms, geometric backgrounds and the use of machine-made glass.

Part 1:
General Condition of the 19 windows

Given the evidence of deferred maintenance at St. Anne's, the stained glass is in remarkably good shape, though many panels are in need of repair and/or protection, as detailed in Part Two. Most large panels, though vulnerable, have maintained their integrity; the bulk of the concerns are with the ventilator windows and their sash. These ventilator windows are all currently non-functional and have been sealed with caulking.

Throughout the church, as should be expected, the smaller, non-functional windows need the least attention. In fact, the small thunderbird windows at the apex of each of the eight windows in the chapel will be considered to be satisfactory in all respects unless otherwise noted.

Detail from the large, Franz Mayer window above the entrance.

There are six areas of maintenance that apply to all 19 windows;

1) Putty (lead came):
The putty that holds the glass within the lead came is dry and needs to be restored. This is not of immediate concern, but it is a job that requires the window to be removed, therefore it should be done whenever windows are removed for other repairs.

2) Putty (sash):

One of the large, double portrait windows in the Chapel. The artist of these windows is unknown.

One of the group of four "English" style windows in the vestibule.

The putty that holds the window to the wooden sash is also dry, and will have to be restored whenever a window is removed for repair. Because this putty can be repaired and replaced without removal of the window, it is a less difficult concern to address, and should be coordinated with the painting and other repairs to the windows.

3) Painting:

All interior and exterior sash needs to be repainted.

4) Sash Repair:

The wooden sash is in satisfactory condition, with some exceptions, as noted in Part Three. The metal sash in the ventilator windows is in much worse condition. Several of these must be removed and rebuilt.

5) Protective Coverings:

It appears that all of the windows were fitted at some early date (perhaps when originally installed) with protective coverings of glass; some are intact, but many have been damaged or removed over the years. All of the

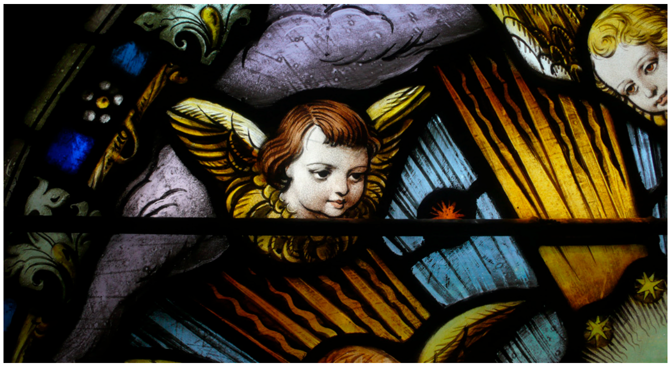
Exterior view of one of the "English" style windows in the vestibule showing the lead caming which holds the stained glass pieces together. This is the window shown at the beginning of this report.

windows were subsequently fitted with a second layer made of Plexiglas that has become opaque over time. Many pieces of this Plexiglas are now broken, exposing the glass.

All of the windows need to have ventilated, protective coverings, designed to deter the elements, vandals, or a wayward seagull. Many of the existing protective covering are intact or partially intact, but none are suitable long-term as they lack ventilation to reduce the heat buildup and condensation that shortens the life of stained glass windows.

6) Cleaning:

All of the windows need to be cleaned by a stained-glass professional using appropriate materials and chemicals.



Detail of the window to the left.

Part 2: Recommendation for Preservation

Of the 19 windows in this condition report, many are exceptional and all are worthy of preservation for their Historic and Cultural value, as well as their Artistic and Decorative value.

According to The Stained Glass Association of America, the following factors increase the cultural and historic value of windows:

Interior view of the Chapel looking towards the entry. The double portrait windows are on each side and the large Franz Mayer window is top center.

- **Rarity/Uniqueness/Irreplaceability**
- **Use of exceptional or unusual art/design technique**
- **Famous name artist or designer**
- **Study of the windows will bring greater understanding of a cultural heritage**
- **Location in a culturally or historically important building or area**

from "Standards and Guidelines for the Preservation of Stained (and Leaded) Glass Windows" SGAA, 2012, pp.9-10.

Cathedral and Opalescent Glass are both machine made glass. Molten glass is pushed through a roller to approximately 1/8" thickness. The glass is uniform. The roller can be textured to impress texture into the glass.

Antique or mouth blown glass is made when molten glass is gathered in a ball at the end of a pipe through which air is blown. The molten ball of glass is blown into a cylinder which is then cut down its length and placed into an annealing kiln where it flattens into a sheet of glass. These sheets can vary in their thickness and contain air bubbles.

Traditional stained glass windows are painted with vitreous paint, stain or enamel applied to the surface of the glass and then fired in a kiln to permanently fuse the paint with the glass.

The depiction of Native American themes in the chapel windows is certainly unique; and the F. Mayer, Munich, windows in the Chapel and Lantern room are wonderful examples of painted glass from an internationally recognized studio with a rich history. In addition, most of the windows depict cultural and historic events and personages relevant to the specific community served by St. Anne's.

These windows are not only historically and culturally significant; they also have considerable artistic and decorative value. The workmanship is exceptional throughout the church, and so is the artistry. They are "museum quality" examples of the work of early 20th craftsman and designers and should be restored and preserved on those merits alone.

But these windows are in jeopardy and in serious need of attention. We have attempted to identify work that should be scheduled as soon as possible:

- **All windows must have protective exterior coverings;**
- **Many of the ventilator windows need to be rebuilt, and several of these windows will need to have newly fabricated metal frames;**
- **Any window with missing glass or severe bowing should be repaired;**
- **The bowing around the "halo" area in the center panel above the choir loft should be monitored closely as it is the focal point of the centerpiece of the church.**

In conclusion, the windows of St. Anne's are worthy of restoration and preservation. We recommend that you initiate repairs as suggested and update this condition report on an annual basis.

A

Jesus Christ *(7–2 BC to 30–33 AD) also referred to as Jesus of Nazareth, is the central figure of Christianity, whom the teachings of most Christian denominations hold to be the Son of God. Jesus was a Jewish preacher from Galilee, was baptized by John the Baptist, and was crucified in Jerusalem on the orders of the Roman prefect, Pontius Pilate. Christians believe that Jesus was conceived by the Holy Spirit, born of a virgin, performed miracles, founded the Church, died by crucifixion as a sacrifice to achieve atonement, rose from the dead, and ascended into heaven, from which he will return.*

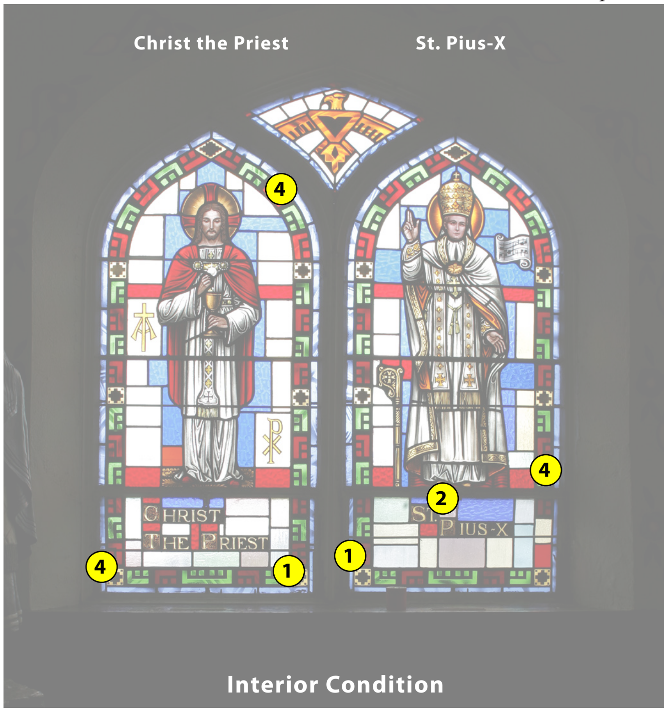
Pope Pius X *(2 June 1835 – 20 August 1914) born Giuseppe Melchiorre Sarto, was the head of the Catholic Church from 4 August 1903 to his death in 1914. Pius X rejected modernist interpretations of Catholic doctrine, promoting traditional devotional practices and orthodox theology. His most important reform was to publish the first Code of Canon Law, which collected the laws of the Church into one volume for the first time. He was a pastoral pope, encouraging personal piety and a lifestyle reflecting Christian values. Personally, Pius combined within himself a strong sense of compassion, benevolence and poverty.*

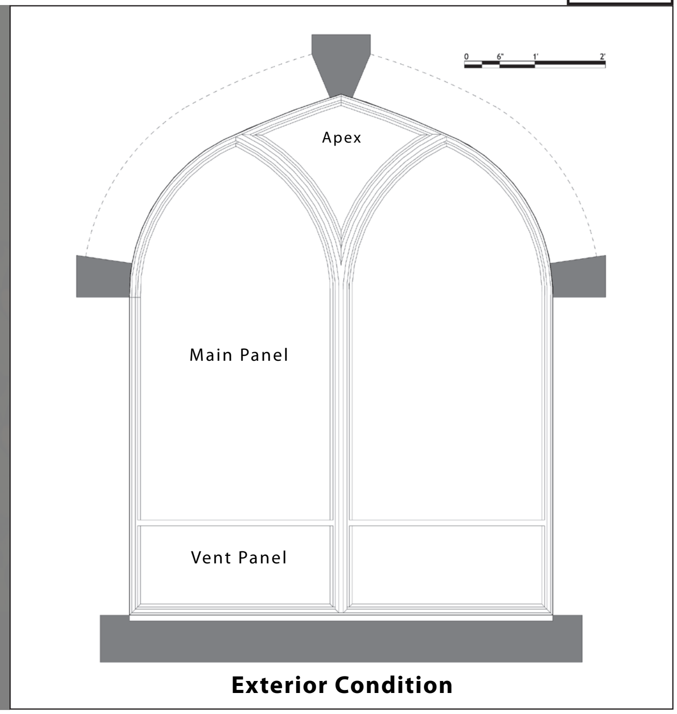
Location : **Chapel, South Side**

Approximate Dimensions : **w72" x 85"h (1.82 x 2.15m)**

Consisting of two large panels with ventilators below and one small window at the apex

Window A





GLASS

	left panel	right panel
MAIN Panel	no breaks or cracks	one crack
VENT Panel	(1) broken, painted piece	(1) broken, painted piece

LEAD

MAIN Panel	satisfactory	satisfactory
VENT Panel	satisfactory	a few minor breaks

BOWING

MAIN Panel	none	none
VENT Panel	none	minor (monitor)

PROTECTIVE COVERINGS

MAIN Panel	Plexiglas	Glass and Plexiglas
VENT Panel	Glass and Plexiglas	Plexiglas

NOTE

	"Gift of Rev. Joseph R. McGowan, Winthrop, Maine"	*"Gift of Thomas P. Coyne Family, Portland, Maine"*

SUPPORTING BARS & TIES

All bars and ties are in satisfactory condition. Window supporting bar not well-seated in sash. (Christ the Priest)

SASH

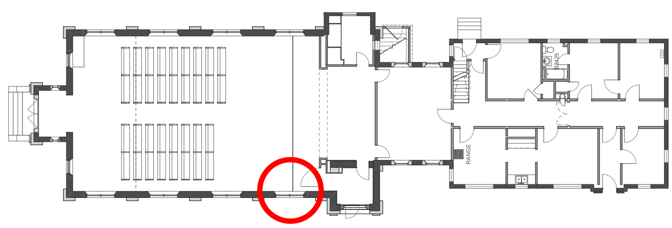
Interior and exterior sash generally satisfactory, some minor repair needed, slight water damage interior upper right hand corner.

ARTIST/STUDIO Unknown

DATE INSTALLED Unknown

ADDITIONAL NOTES

Part of the grouping of (8) double portrait windows



1st Floor

KEY

Window damage in supporting photographs indicated as follows:

1. Broken painted piece
2. Broken piece
3. Supporting Bar/Ties
4. Fracture
5. Lead

NOTE: All of the biographies of the figures on the facing pages were added by D. Bridges. They are meant to be general in nature. They are copied directly from Wikkipedia and edited for brevity.

B

Saint Thérèse of Lisieux *(January 2, 1873 – September 30, 1897), or Saint Thérèse of the Child Jesus and the Holy Face, born Marie-Françoise-Thérèse Martin, was a French Carmelite nun. She is also known as "The Little Flower of Jesus" or simply, "The Little Flower". She has been a highly influential model of sanctity for Roman Catholics and for others because of the "simplicity and practicality of her approach to the spiritual life." Together with St. Francis of Assisi, she is one of the most popular saints in the history of the church.*

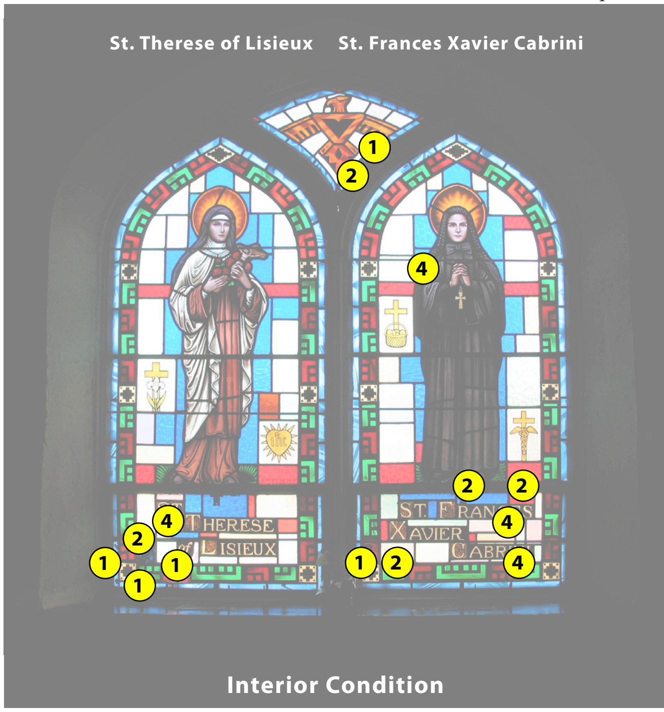
Saint Frances Xavier Cabrini *(July 15, 1850 – December 22, 1917) also called Mother Cabrini, was an Italian Religious Sister, who founded the Missionary Sisters of the Sacred Heart, a Catholic religious institute which was a major support to the Italian immigrants to the United States. She was the first citizen of the United States to be canonized by the Catholic Church. Cabrini was born in Sant'Angelo Lodigiano, in the Lombard Province of Lodi, then part of the Austrian Empire. Cabrini took religious vows in 1877 and added Xavier to her name to honor the Jesuit saint, Francis Xavier, the patron saint of missionary service.*

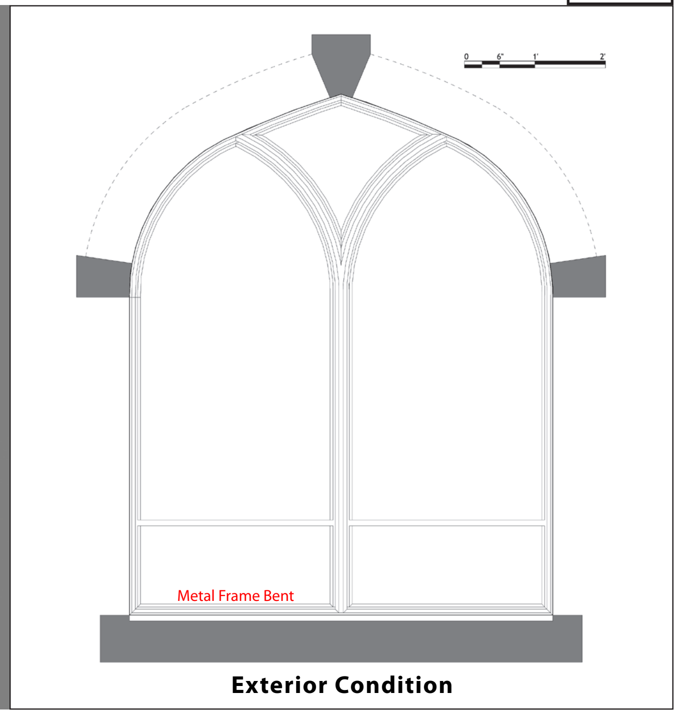
Location : **Chapel, South Side**

Approximate Dimensions : **w72" x 85"h (1.82 x 2.15m)**

Consisting of two large panels with ventilators below and one small window at the apex

Window B





GLASS

	left panel	*right panel*
MAIN Panel	one fracture	one fracture
VENT Panel	(3) broken, painted pieces; one broken piece; one fracture	(1) broken, painted piece; (3) broken pieces; (1) fracture

LEAD

MAIN Panel	satisfactory	satisfactory
VENT Panel	a few minor breaks	a few minor breaks

BOWING

MAIN Panel	none	none
VENT Panel	buckling (repair)	bowed (monitor)

PROTECTIVE COVERINGS

MAIN Panel	Plexiglas	Glass and Plexiglas
VENT Panel	Glass and Plexiglas	Plexiglas

NOTE

	"Gift of Rev. Andrew J. Arseneau, Mars Hill, Maine"	*"Gift of Leo Mezerole, Pembroke, Maine"*

SUPPORTING BARS & TIES

All bars and ties are in satisfactory condition.

SASH

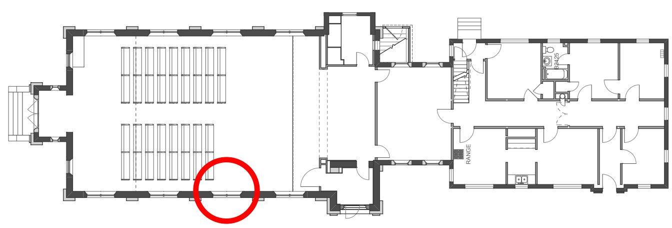
Interior sash generally satisfactory, left ventilator frame (metal) is bent and in need of replacement.

ARTIST/STUDIO Unknown

DATE INSTALLED Unknown

ADDITIONAL NOTES

The Thunderbird window at the apex
has one fracture and one break.
Part of the grouping of (8) double portrait windows



1st Floor

KEY

Window damage in supporting photographs indicated as follows:

1. **Broken painted piece**
2. **Broken piece**
3. **Supporting Bar/Ties**
4. **Fracture**
5. **Lead**

C

Dominic Savio *(April 2, 1842 – March 9, 1857) was an Italian adolescent student of Saint John Bosco. He was studying to be a priest when he became ill and died at the age of 14, possibly from pleurisy. His teacher, John Bosco, had very high regard for Savio, and wrote a biography of his young student, The Life of Dominic Savio. This volume, along with other accounts of him, were critical factors in his cause for sainthood. Despite the fact that many people considered him to have died at too young an age to be considered for sainthood, he was considered eligible for such singular honour on the basis of his having displayed "heroic virtue" in his everyday life.*

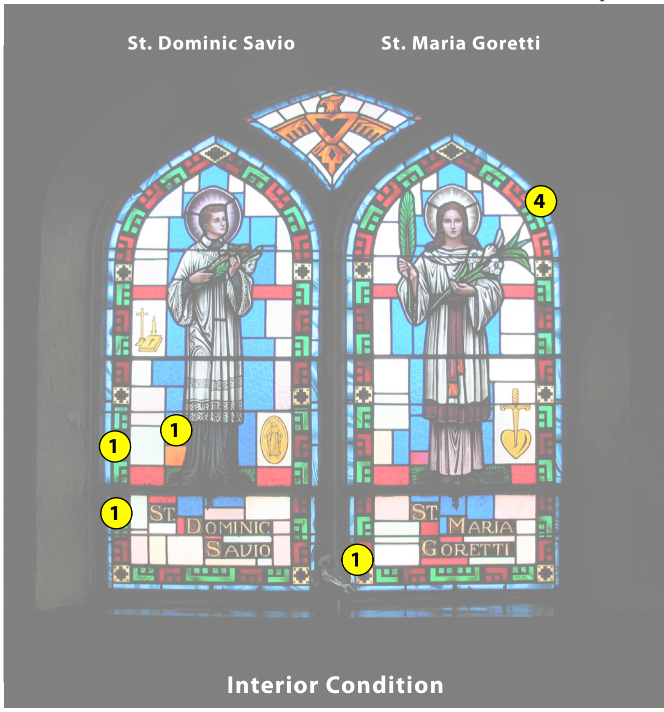
Maria Goretti *(October 16, 1890 – July 6, 1902) is an Italian virgin-martyr of the Roman Catholic Church, and is one of its youngest canonized saints. She died from multiple stab wounds inflicted by her attempted rapist after she refused to submit to him. Goretti was born in Corinaldo, in the Province of Ancona, then in the Kingdom of Italy, to Luigi Goretti and Assunta Carlini. Goretti's feast day is celebrated on July 6. Maria is the patron saint of chastity, rape victims, girls, youth, teenage girls, poverty, purity and forgiveness.*

Location : **Chapel, South Side**

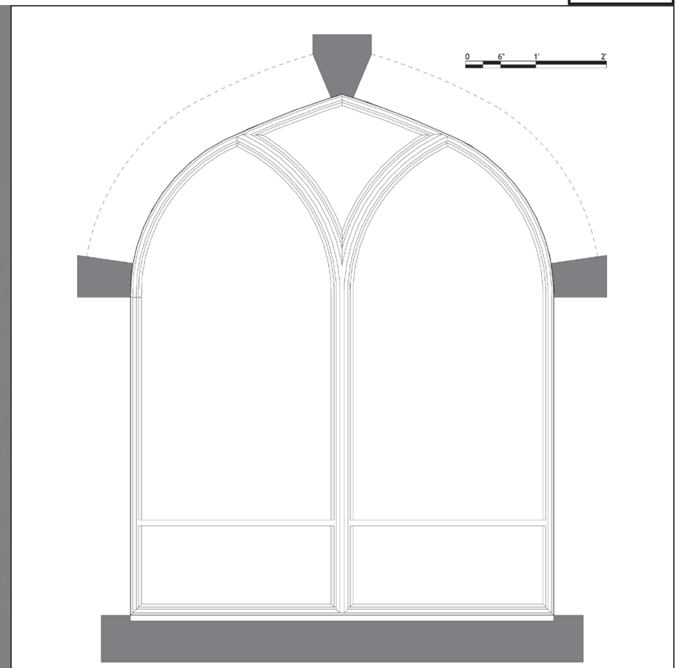
Approximate Dimensions : **w72" x 85"h (1.82 x 2.15m)**

Consisting of two large panels with ventilators below and one small window at the apex

Window C



Interior Condition


Exterior Condition

GLASS

	left panel	*right panel*
MAIN Panel	(1) broken, painted piece; one broken piece	one fracture
VENT Panel	one fracture	(1) broken, painted piece

LEAD

MAIN Panel	satisfactory	satisfactory
VENT Panel	satisfactory	one minor break

BOWING

MAIN Panel	none	none
VENT Panel	none	minor bowing (monitor)

PROTECTIVE COVERINGS

MAIN Panel	Plexiglas	Glass and Plexiglas
VENT Panel	Glass and Plexiglas (ext. cracked)	Glass and Plexiglas (inner cracked)

NOTE

	"Gift of Joseph M. Napolitano, Portland, Maine"	*"Gift of Robert H. Peverada, Portland, Maine"*

SUPPORTING BARS & TIES

All bars and ties are in satisfactory condition.

SASH

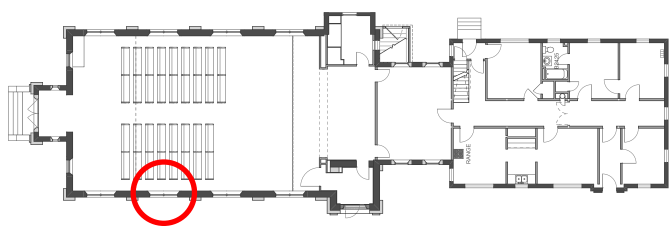
Interior and exterior sash generally satisfactory.

ARTIST/STUDIO Unknown

DATE INSTALLED Unknown

ADDITIONAL NOTES

Part of the grouping of (8) double portrait windows


1st Floor

KEY

Window damage in supporting photographs indicated as follows:

1. Broken painted piece
2. Broken piece
3. Supporting Bar/Ties
4. Fracture
5. Lead

D

Saint Catherine Labouré *(May 2, 1806 – December 31, 1876) was a member of the Daughters of Charity of Saint Vincent de Paul and a Marian visionary who relayed the request from the Blessed Virgin Mary to create the Miraculous Medal worn by millions of Christians, both Roman Catholic and non-denominational.*

She was born in the Burgundy region of France. She was extremely devout, of a somewhat romantic nature, given to visions and intuitive insights. As a young woman she became a member of the a nursing order founded by Saint Vincent de Paul. She chose the Daughters of Charity after a dream about St. Vincent De Paul.

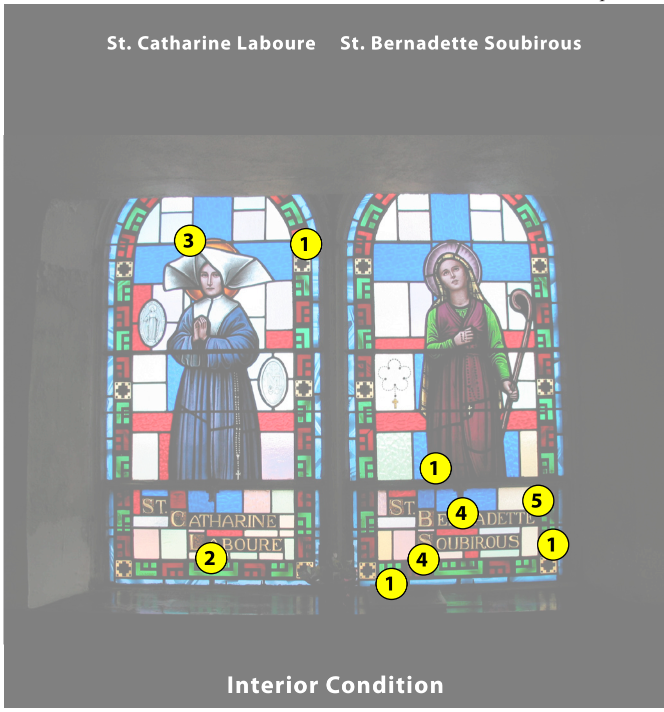
Marie-Bernarde Soubirous *(January 7, 1844 – April 16, 1879) was a miller's daughter born in Lourdes, France, and is venerated as a Christian mystic and Saint in the Catholic Church. Soubirous is best known for her participation in the Marian apparitions of "a small young lady" who asked for a chapel to be built at a cave-grotto in Massabielle where the apparitions occurred between February 11 and July 16, 1858. She would later receive recognition when the lady who appeared to her identified herself as the Immaculate Conception. Her Feast Day is observed on April 16. She is considered a Christian mystic.*

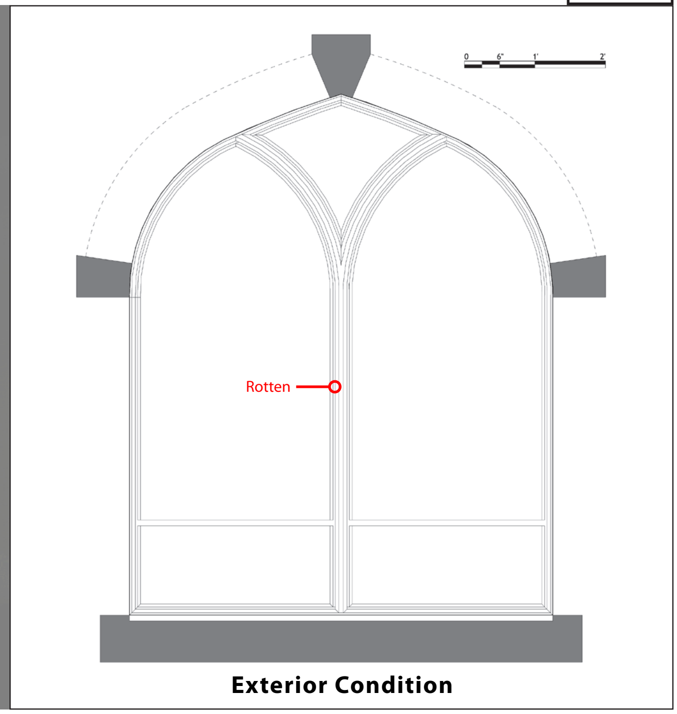
Location : **Chapel, South Side**

Approximate Dimensions : **w72" x 85"h (1.82 x 2.15m)**

Consisting of two large panels with ventilators below and one small window at the apex

Window D





GLASS

	left panel	*right panel*
MAIN Panel	(1) broken, painted piece	(1) broken, painted piece
VENT Panel	(1) broken piece	(1) broken, painted piece; (4) fractures

LEAD

MAIN Panel	satisfactory	satisfactory
VENT Panel	satisfactory	a few breaks, missing piece (repair

BOWING

MAIN Panel	none	none
VENT Panel	bowed (monitor)	none

PROTECTIVE COVERINGS

MAIN Panel	Glass and Plexiglas	Plexiglas
VENT Panel	Glass and Plexiglas	Plexiglas

NOTE

Dedication plaque is missing	*"Gift of the Daughters of Isabella"*

SUPPORTING BARS & TIES

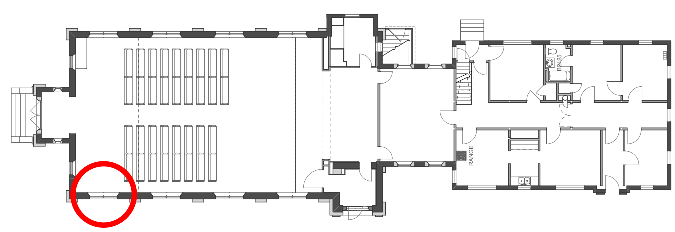
All bars and ties are in satisfactory condition, save for one broken tie in left main panel.

SASH

Significant rot in center of exterior sash; both ventilator windows are rotten at the base.

ARTIST/STUDIO Unknown

DATE INSTALLED Unknown



1st Floor

KEY

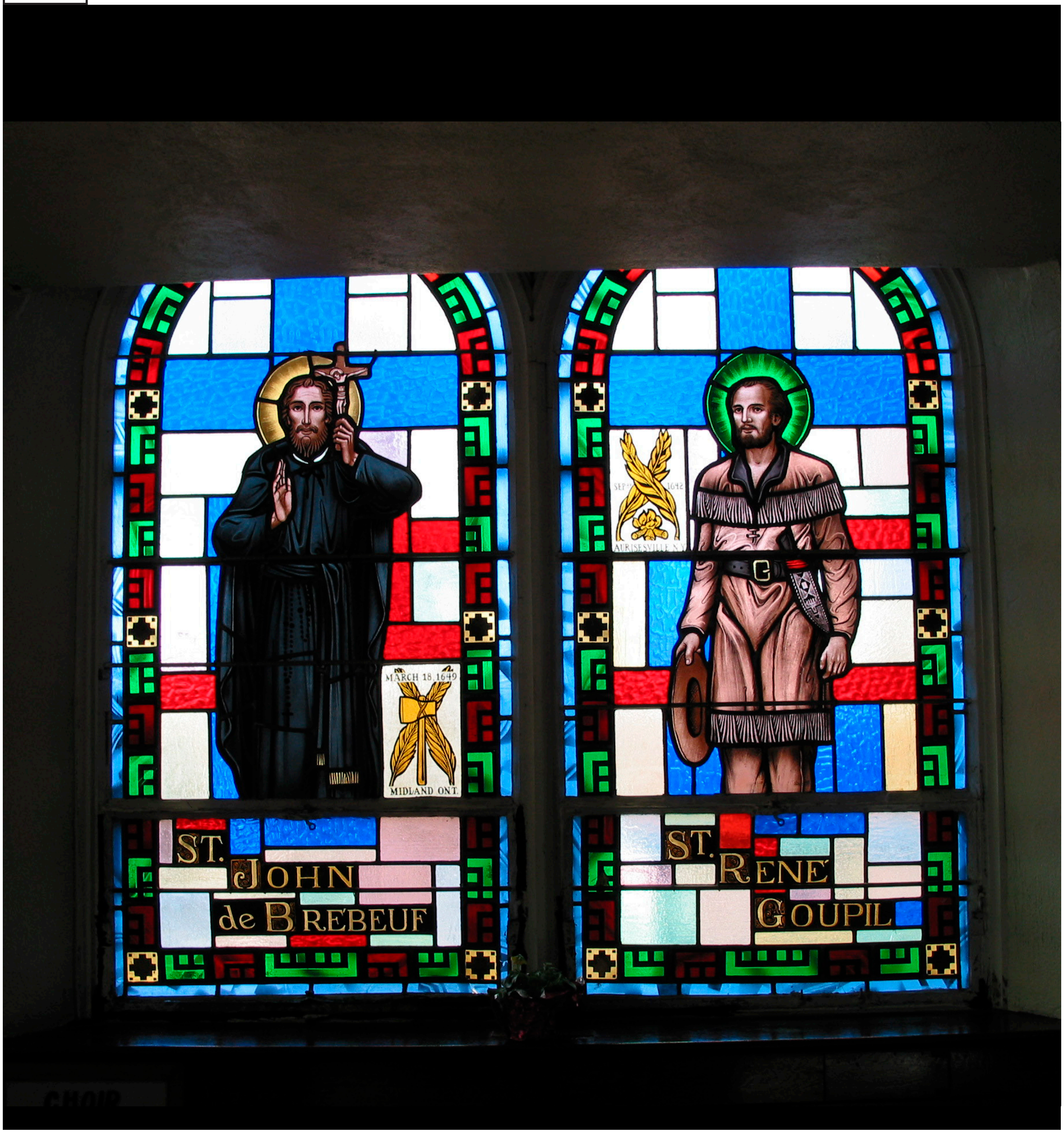
Window damage in supporting photographs indicated as follows:

1. Broken painted piece
2. Broken piece
3. Supporting Bar/Ties
4. Fracture
5. Lead

ADDITIONAL NOTES

One of two windows in this group in which the figure is cropped at the knees to bring the head under the lowered ceiling. Access to upper portion of main panels and the Thunderbird is impacted by choir loft. As a result, the left main panel is loose and was never puttied into the sash. The Thunderbird was never puttied into the sash. Part of the grouping of (8) double portrait windows.

E



Saint Jean de Brébeuf *(March 25, 1593 – March 16, 1649) was a French Jesuit missionary, martyred in Canada on March 16, 1649. Brébeuf was born in Condé-sur-Vire, Normandy, France, the uncle of poet Georges de Brébeuf. He joined the Society of Jesus in 1617 at the age of 24 and spent two years under the direction of Lancelot Marin. Between 1619 and 1621 he was a teacher at the college of Rouen. Later he would become a language teacher to missionaries and French traders. Brébeuf finally achieved his priesthood at Pontoise in 1622.*

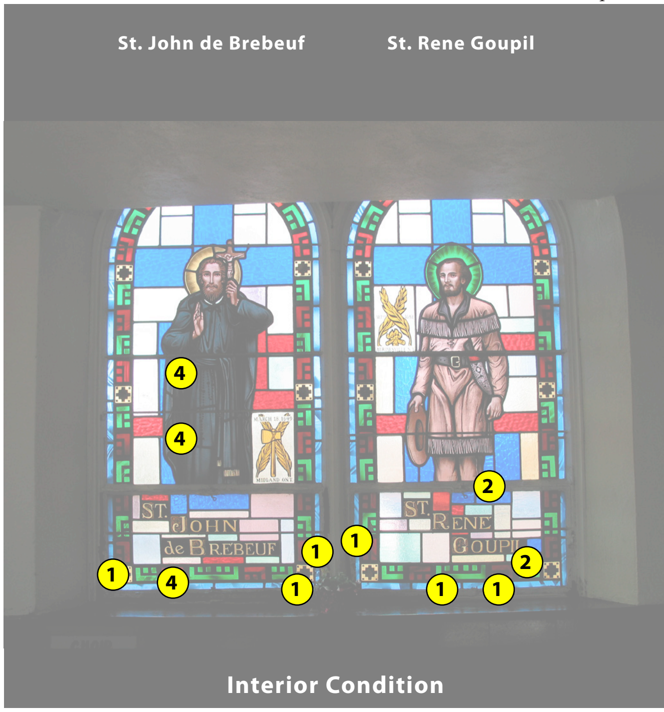
René Goupil *(May 15, 1608 – September 29, 1642) was a French missionary and one of the first North American martyrs of the Roman Catholic Church. He was baptized in St-Martin-du-Bois near Angers. He was a surgeon before entering the novitiate of the Society of Jesus (Jesuits.) In 1640, he arrived in New France (now Canada) as a lay missionary. From 1640 to 1642, he was at the Saint-Joseph de Sillery mission, near Quebec. He is venerated as the first Jesuit martyr in Canada and one of three United States martyrs.*

Location : **Chapel, South Side**

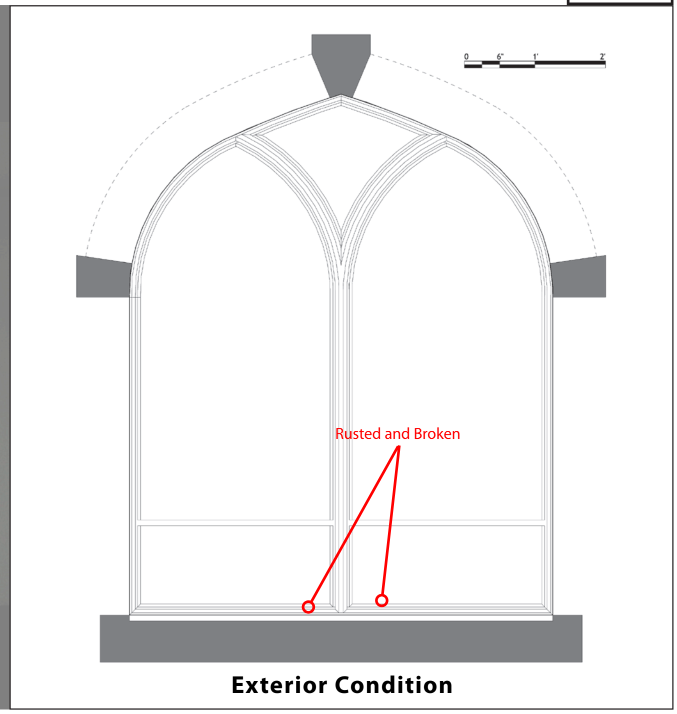
Approximate Dimensions : **w72" x 85"h (1.82 x 2.15m)**

Consisting of two large panels with ventilators below and one small window at the apex

Window E



Interior Condition



Exterior Condition

GLASS

	left panel	*right panel*
MAIN Panel	(2) fractures	no breaks or fractures
VENT Panel	(3) broken painted pieces; (1) fracture	(3) broken, painted pieces; (2) broken pieces

LEAD

MAIN Panel	satisfactory	satisfactory
VENT Panel	satisfactory	satisfactory

BOWING

MAIN Panel	none	none
VENT Panel	bowing (repair)	minor bowing (monitor)

PROTECTIVE COVERINGS

MAIN Panel	Plexiglas	Plexiglas
VENT Panel	Plexiglas	Plexiglas

NOTE

"Gift of The Knights of Columbus"

SUPPORTING BARS & TIES

All bars and ties are in satisfactory condition.

SASH

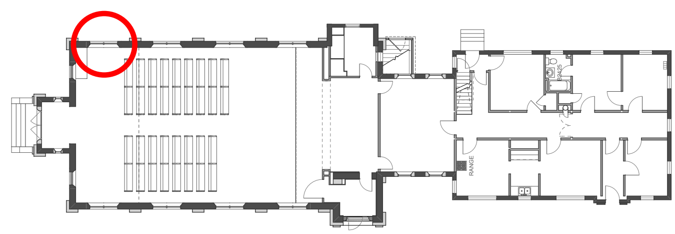
Exterior ventilator rusted and broken.

ARTIST/STUDIO Unknown

DATE INSTALLED Unknown

ADDITIONAL NOTES

The other of two windows in this group in which the figure is cropped at the knees to bring the head under the lowered ceiling. Access to upper portion of main panels and the Thunderbird impacted by choir loft. Thunderbird window never puttied into the sash. Part of the grouping of (8) double portrait windows



1st Floor

KEY

Window damage in supporting photographs indicated as follows:

1 Broken painted piece
2 Broken piece
3 Supporting Bar/Ties
4 Fracture
5 Lead

F

Saint Francis Solanus *(March 10, 1549 – July 14, 1610) was a Spanish friar and missionary in South America, belonging to the Order of Friars Minor (the Franciscans.) Solanus was born in Montilla, near Córdoba, Spain. He was educated by the Jesuits, but felt drawn to the poverty and penitential life of the Franciscan friars. At the age of twenty, he joined the Order of Friars Minor at Montilla. Following a very strict routine of prayer, silence and fasting. Francis followed this regimen rigorously, always going barefoot, abstaining from meat, and wearing a hairshirt throughout that entire year.*

Saint Kateri Tekakwitha *(1656 – April 17, 1680), informally known as the "Lily of the Mohawks", is a Roman Catholic saint, who was an Algonquin–Mohawk virgin and religious laywoman. Born in Auriesville (now part of New York), she survived smallpox and was orphaned as a child, then baptized as a Roman Catholic and settled for the last years of her life at the Jesuit mission village of Kahnawake, south of Montreal in New France, now Canada.*

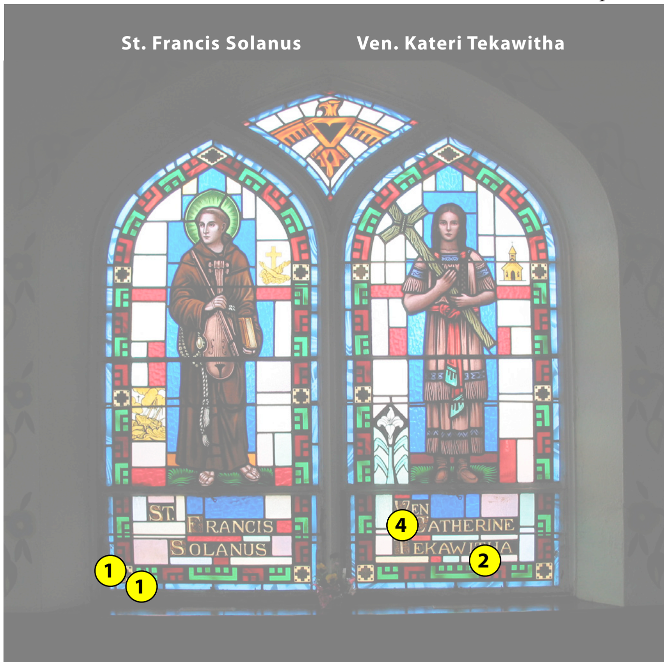
Tekakwitha professed a vow of virginity until her death at the age of 24. Known for her virtue of chastity, she is the fourth Native American to be venerated in the Roman Catholic Church

Location : **Chapel, South Side**

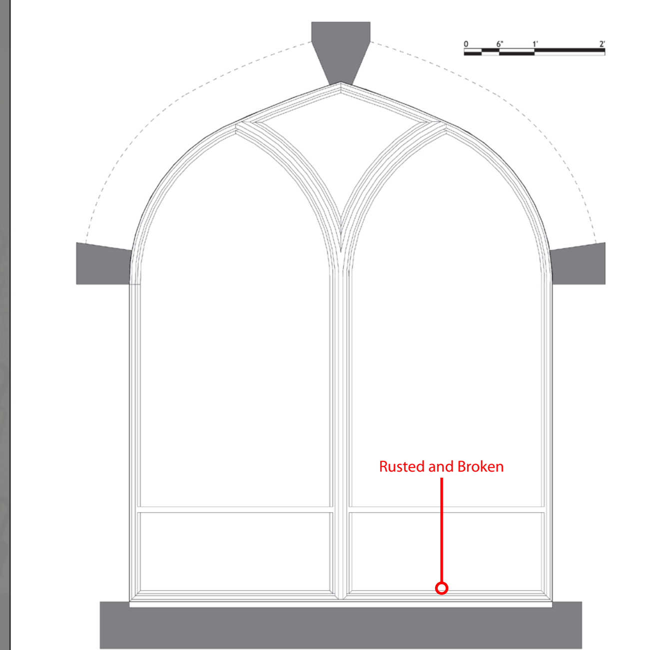
Approximate Dimensions : **w72" x 85"h (1.82 x 2.15m)**

Consisting of two large panels with ventilators below and one small window at the apex

Window F



Interior Condition



Exterior Condition

GLASS

	left panel	*right panel*
MAIN Panel	no breaks or fractures	no breaks or fractures
VENT Panel	(2) broken painted pieces	(1) broken piece, (1) fracture

LEAD

MAIN Panel	satisfactory	satisfactory
VENT Panel	missing on border, left & right	satisfactory

BOWING

MAIN Panel	none	none
VENT Panel	extreme bowing(repair)	minor bowing (monitor)

PROTECTIVE COVERINGS

MAIN Panel	Plexiglas	Glass and Plexiglas
VENT Panel	Plexiglas	Plexiglas

NOTE

"Gift of F.W. Cunningham & Sons, Portland, Maine"	*"Gift of the Youth C.C.D., St. Ann's Church"*

SUPPORTING BARS & TIES

All bars and ties are in satisfactory condition.

SASH

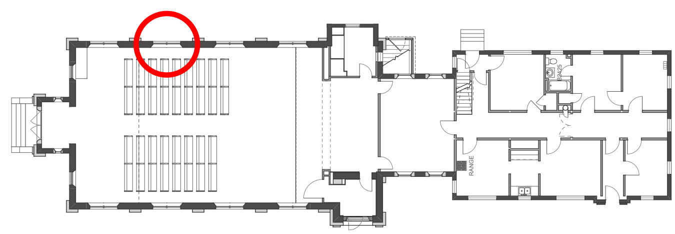
Exterior ventilator rusted and broken on right side (ext. perspective).

ARTIST/STUDIO Unknown

DATE INSTALLED Unknown

ADDITIONAL NOTES

Kateri Tekakwitha, "The Lily of the Mohawks" was recently beatified (2012.) Part of the grouping of (8) double portrait windows



1st Floor

KEY

Window damage in supporting photographs indicated as follows:

1 Broken painted piece
2 Broken piece
3 Supporting Bar/Ties
4 Fracture
5 Lead

G

Saint Martin de Porres *(December 9, 1579 – November 3, 1639) was a lay brother of the Dominican Order. He is the patron saint of mixed-race people and all those seeking interracial harmony. He was noted for work on behalf of the poor, establishing an orphanage and a children's hospital. He maintained an austere lifestyle, which included fasting and abstaining from meat. Among the many miracles attributed to him were those of levitation, bilocation, miraculous knowledge, instantaneous cures, and an ability to communicate with animals.*

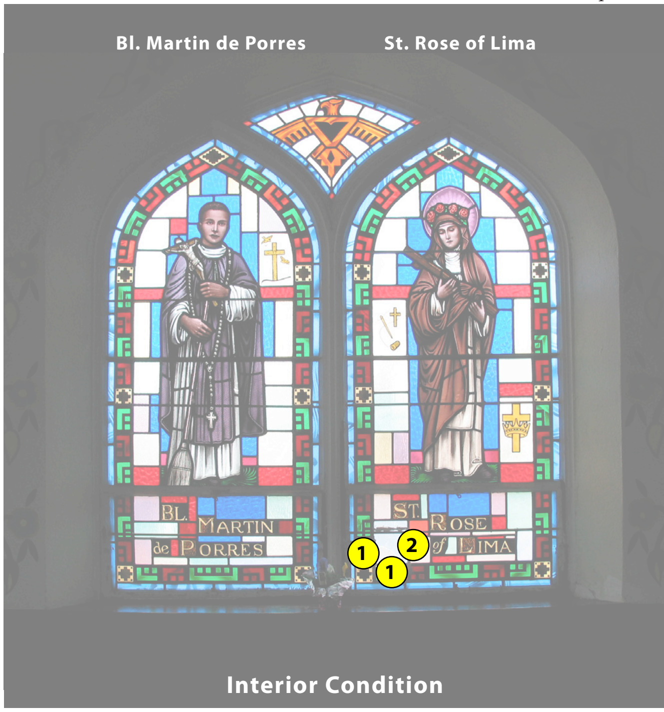
Saint Rose of Lima *(April 20, 1586 – August 24, 1617) was born Isabel Flores y de Oliva in the city of Lima, the Viceroyalty of Peru, then part of New Spain. She was one of the many children of Gaspar Flores, a harquebusier in the Imperial Spanish army, born in San Germán on the island of San Juan Bautista (now Puerto Rico), and his wife, María de Oliva, a native of Lima. Her later nickname "Rose" comes from an incident in her babyhood: a servant claimed to have seen her face transform into a rose. She helped the sick and hungry around her community and she made and sold lace and embroidery to care for the poor.*

Location : **Chapel, South Side**

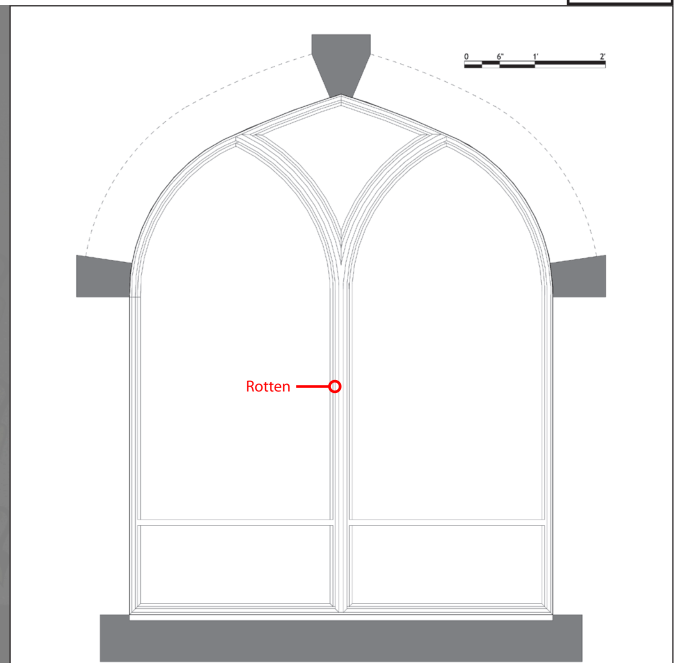
Approximate Dimensions : **w72" x 85"h (1.82 x 2.15m)**

Consisting of two large panels with ventilators below and one small window at the apex

Window G



Interior Condition



Exterior Condition

GLASS

	left panel	*right panel*
MAIN Panel	no breaks or fractures	no breaks or fractures
VENT Panel	no breaks or fractures	(2) broken painted pieces; (1) broken piece

LEAD

MAIN Panel	satisfactory	satisfactory
VENT Panel	satisfactory	damage where glass broken

BOWING

MAIN Panel	none	none
VENT Panel	extreme bowing(repair)	minor bowing (monitor)

PROTECTIVE COVERINGS

MAIN Panel	Plexiglas	Glass (cracked) and Plexiglas
VENT Panel	Plexiglas	Plexiglas

NOTE

"In Memory of Sister Beatrice Parish-Friends Sodality"

SUPPORTING BARS & TIES

Bars and ties are in satisfactory condition;
one broken tie in left ventilator.

SASH

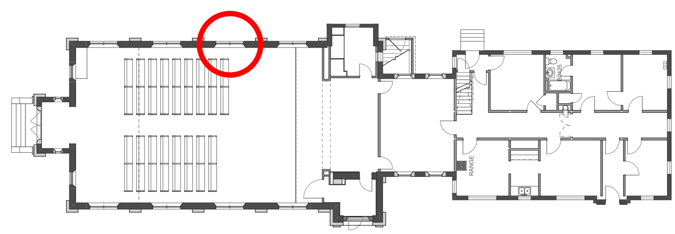
Exterior sash badly rotted in center section.

ARTIST/STUDIO Unknown

DATE INSTALLED Unknown

ADDITIONAL NOTES

Part of the grouping of (8) double portrait windows



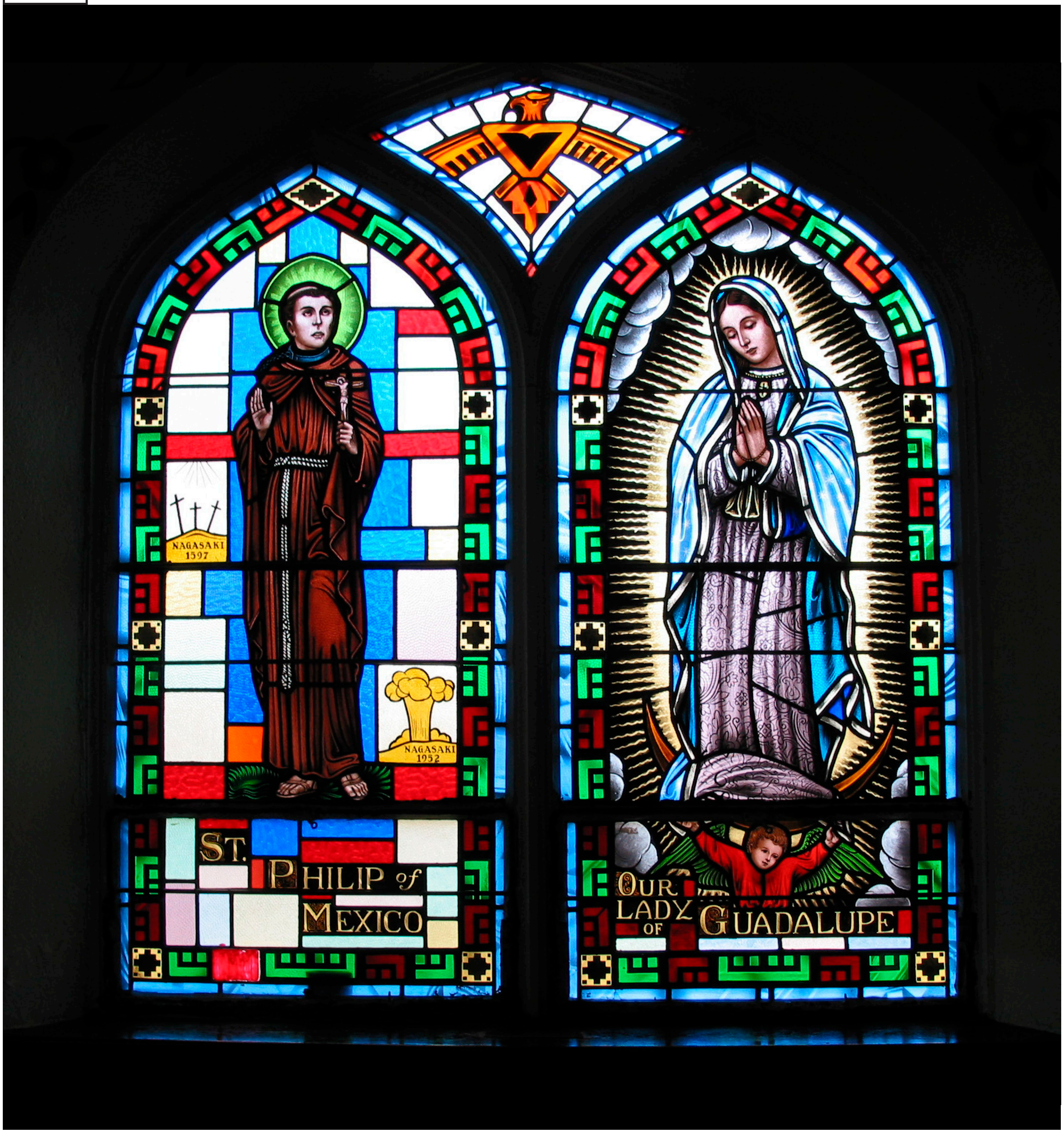
1st Floor

KEY

Window damage in supporting photographs indicated as follows:

1. Broken painted piece
2. Broken piece
3. Supporting Bar/Ties
4. Fracture
5. Lead

H



Saint Philip of Mexico *(1572 – February 5, 1597) was a Mexican Catholic missionary. The first Mexican saint and patron saint of Mexico City. In 1596, while sailing from the Phillipines to Mexico a storm drove the ship upon the coast of Japan. The governor of the province confiscated the ship and imprisoned the passengers. The discovery of soldiers, cannon and ammunition led to the suspicion that it was intended for the conquest of Japan.The friars were kept prisoners for several months and later they were taken to a mountain near Nagasaki, "Mount of the Martyrs", bound upon crosses, and pierced with spears.*

Our Lady of Guadalupe *was not an actual person but rather, a vision of the Virgin Mary seen near Mexico City in 1531. Traditional accounts tell that the peasant Juan Diego saw at the Hill of Tepeyac, near Mexico City, a vision of a girl, fifteen or sixteen years of age, surrounded by light. It was the early morning of December 9, 1531, Speaking to him in Nahuatl, his language, the girl asked for a church to be built at that site in her honor. Juan Diego recognized the girl to be the Virgin Mary. In 1999, Pope John Paul II proclaimed the Virgin Mary Patroness of the Americas, Empress of Latin America, and Protectress of Unborn Children.*

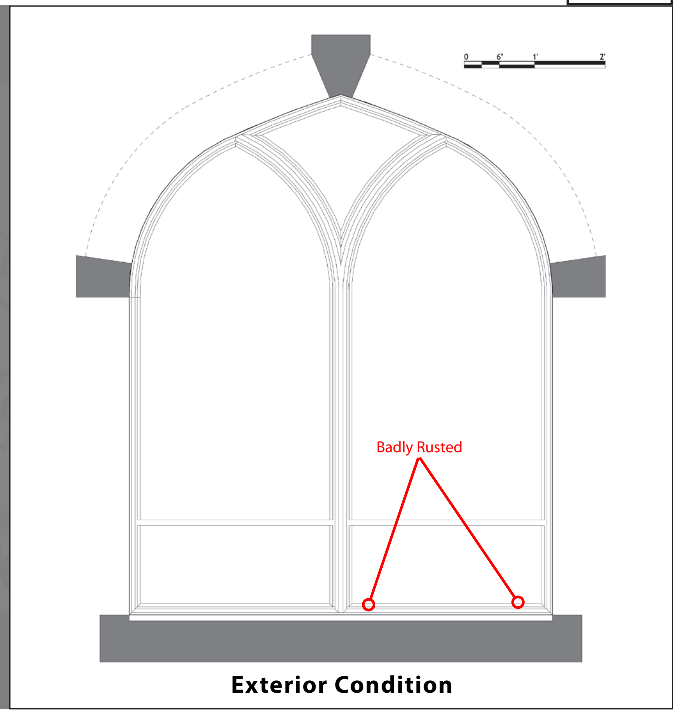
Location : **Chapel, South Side**

Approximate Dimensions : **w72" x 85"h (1.82 x 2.15m)**

Consisting of two large panels with ventilators below and one small window at the apex

Window H

Interior Condition



Exterior Condition

GLASS

	left panel	*right panel*
MAIN Panel	(2) repaired fractures	no breaks or fractures
VENT Panel	(2) broken painted pieces	(3) broken painted pieces

LEAD

MAIN Panel	satisfactory	satisfactory
VENT Panel	satisfactory	satisfactory

BOWING

MAIN Panel	none	none
VENT Panel	bowing (monitor)	minor bowing (monitor)

PROTECTIVE COVERINGS

MAIN Panel	Glass and Plexiglas	Glass (cracked) and Plexiglas
VENT Panel	Plexiglas	Glass (broken) and Plexiglas

NOTE

"Gift of the Sodality, St. Ann's Church"

SUPPORTING BARS & TIES

All bars and ties are in satisfactory condition.

SASH

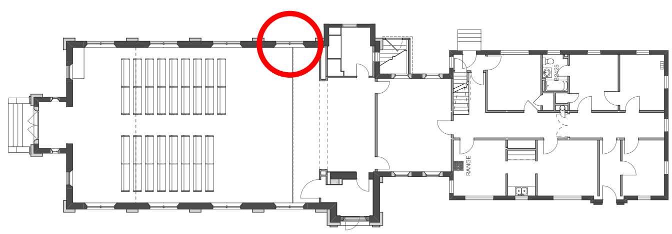
Exterior ventilator rusted and broken on right side (ext. perspective).

ARTIST/STUDIO Unknown

DATE INSTALLED Unknown

ADDITIONAL NOTES

Last of the grouping of (8) double portrait windows



1st Floor

KEY

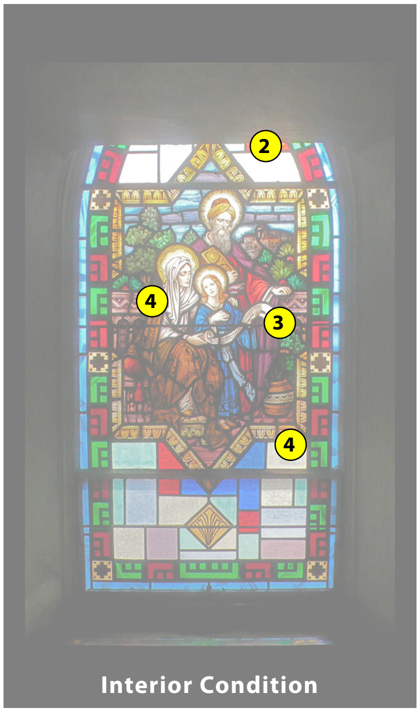
Window damage in supporting photographs indicated as follows:

1. Broken painted piece
2. Broken piece
3. Supporting Bar/Ties
4. Fracture
5. Lead

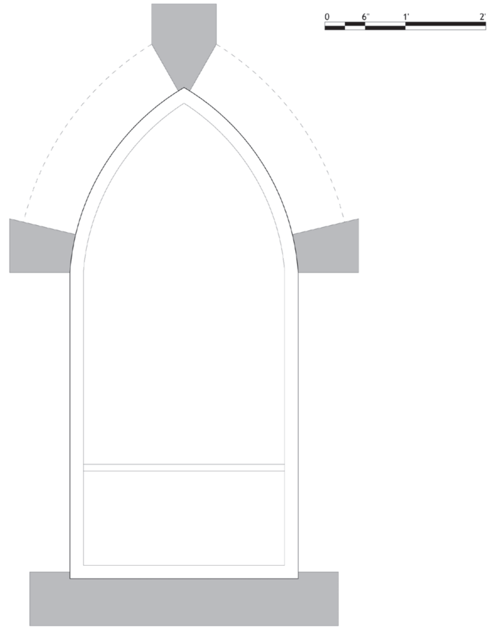
I

Location : **Chapel, 1st Flr, West Side, 1 of 2**
Approximate Dimensions : **w33" x 72"h (0.83 x 1.82m)**
Consisting of a single large panel with ventilator below

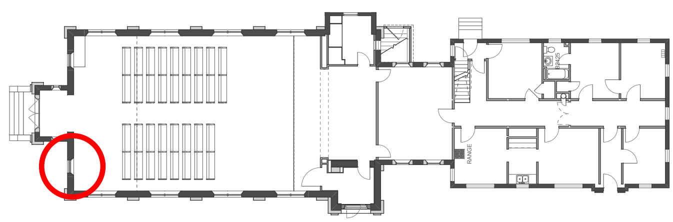
Window I



Interior Condition



Exterior Condition



GLASS

MAIN Panel	(1) break (2) fractures
VENT Panel	no breaks or fractures

LEAD

MAIN Panel	satisfactory; one piece missing
VENT Panel	satisfactory

BOWING

MAIN Panel	minor bowing in upper portion
VENT Panel	none

PROTECTIVE COVERINGS

MAIN Panel	Plexiglas
VENT Panel	Plexiglas

NOTE

Upper window is cropped by low ceiling (Choir loft)

SUPPORTING BARS & TIES

Ties in upper window are loose (repair); vent satisfactory

SASH

Interior and exterior sash generally satisfactory.

ARTIST/STUDIO Unknown

DATE INSTALLED Unknown

ADDITIONAL NOTES

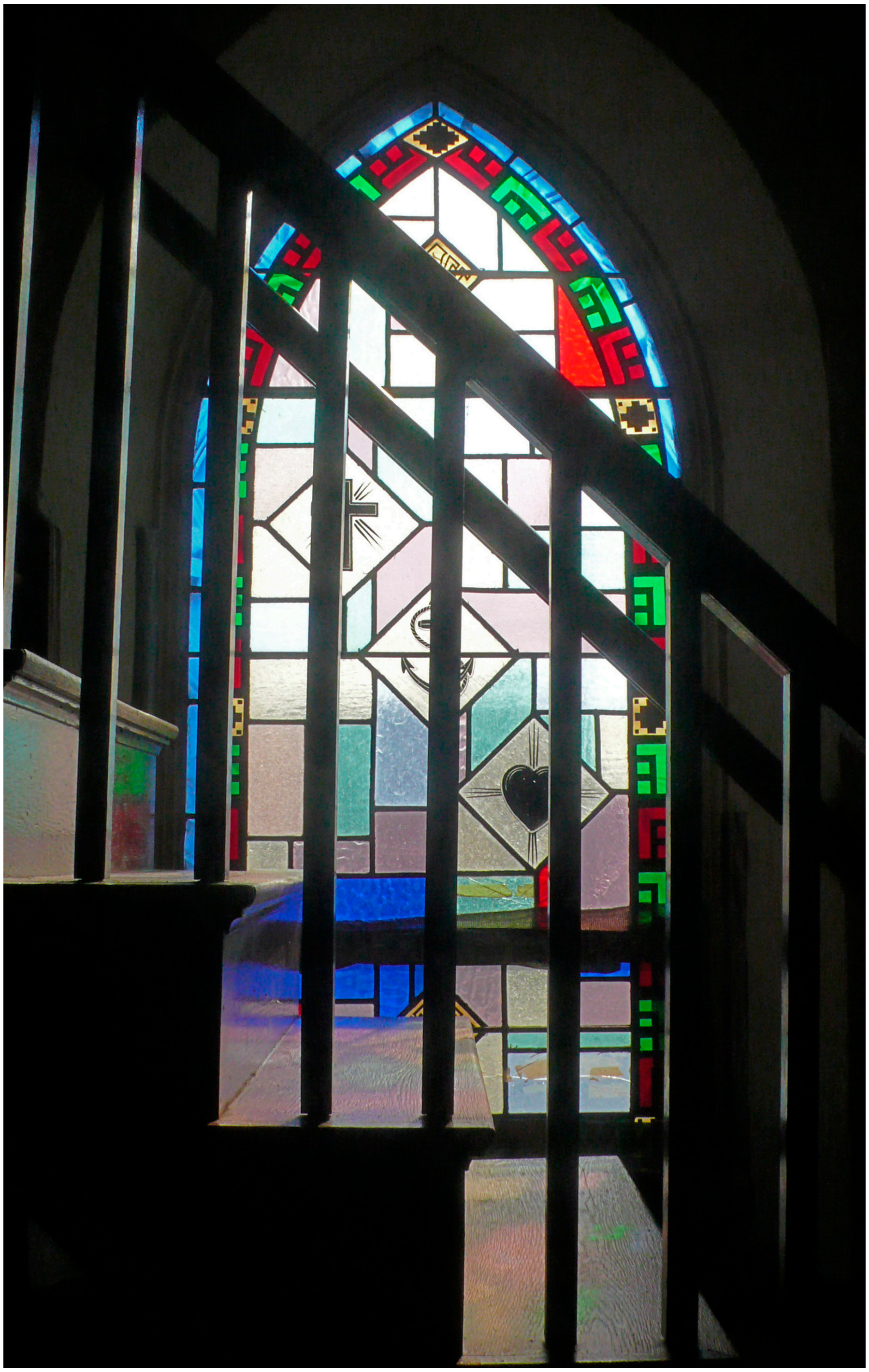
This window is partially obstructed by the choir loft; upper portion of the main panel is loose and was never puttied into the sash. This window is unique in that it seems to have an inset panel that matches the style of the "English" windows while having a border that matches the double portrait windows.

KEY

Window damage in supporting photographs indicated as follows:

1 **Broken painted piece**
2 **Broken piece**
3 **Supporting Bar/Ties**
4 **Fracture**
5 **Lead**

J

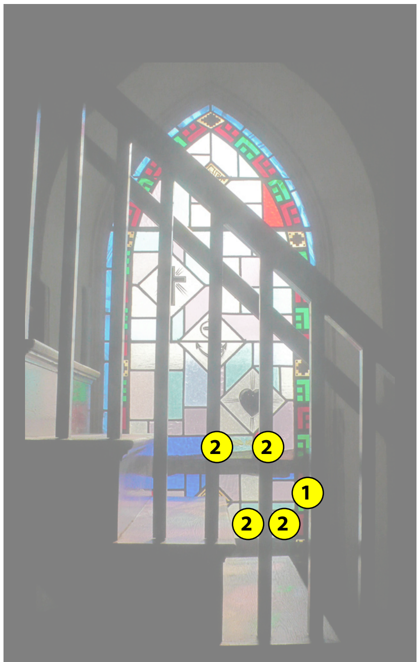


Location : **Chapel, 1st Flr, West Side, 2 of 2**

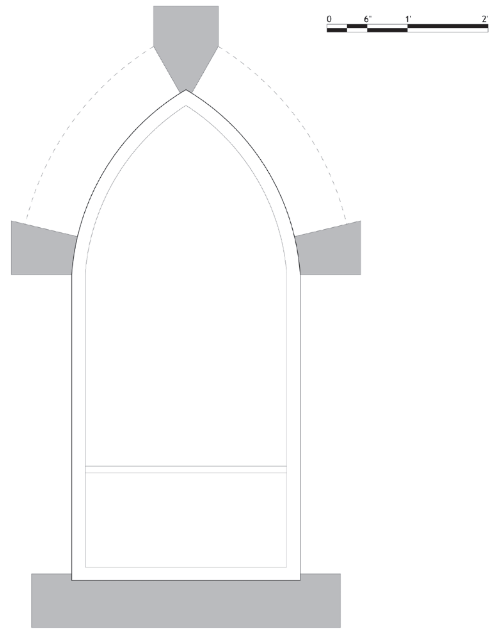
Approximate Dimensions : **w33" x 72"h (0.83 x 1.82m)**

Consisting of a single large panel with ventilator below

Window J



Interior Condition



Exterior Condition

GLASS

MAIN Panel	(2) breaks
VENT Panel	(3) breaks

LEAD

MAIN Panel	satisfactory
VENT Panel	broken where glass is bowed

BOWING

MAIN Panel	minor bowing in upper portion
VENT Panel	none

PROTECTIVE COVERINGS

MAIN Panel	Plexiglas
VENT Panel	Plexiglas

NOTE

Window obscured by stairs.

SUPPORTING BARS & TIES

All bars and ties are in satisfactory condition.

SASH

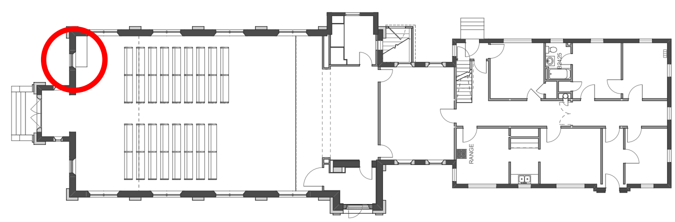
Interior and exterior sash generally satisfactory.

ARTIST/STUDIO Unknown

DATE INSTALLED Unknown

ADDITIONAL NOTES

This window is partially obstructed by the choir loft stairs. Proximity to stairs leaves it vulnerable to damage. It appears to be by the same artist/studio as the portrait windows but is unique as an abstract design



1st Floor

KEY

Window damage in supporting photographs indicated as follows:

1 Broken painted piece
2 Broken piece
3 Supporting Bar/Ties
4 Fracture
5 Lead

K

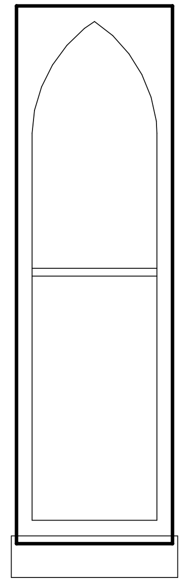
Location : **Chapel Entry, 1st Flr, South Side**

Approximate Dimensions : **w15" x 51"h (0.38 x 1.29m)**

Consisting of a single panel

Window K

Interior Condition



Exterior Condition

GLASS

MAIN Panel no breaks or fractures

LEAD

MAIN Panel satisfactory

BOWING

MAIN Panel none

PROTECTIVE COVERINGS

MAIN Panel Plexiglas

NOTE

SUPPORTING BARS & TIES

All bars and ties are in satisfactory condition.

SASH

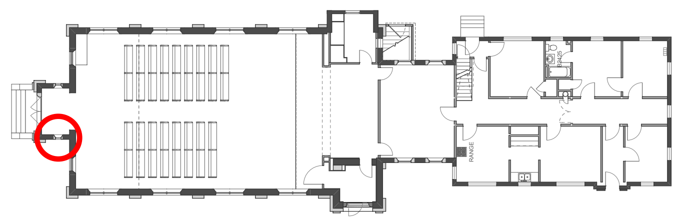
Interior and exterior sash generally satisfactory.

ARTIST/STUDIO Unknown

DATE INSTALLED Unknown

ADDITIONAL NOTES

This small window in the Chapel entry (1 of 2) appears to be by the same studio as the double portrait windows.



1st Floor

KEY

Window damage in supporting photographs indicated as follows:

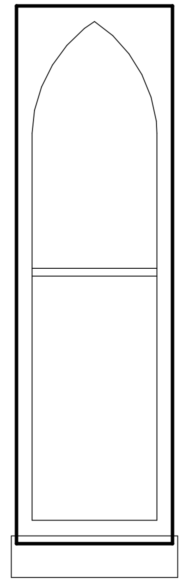
1 **Broken painted piece**
2 **Broken piece**
3 **Supporting Bar/Ties**
4 **Fracture**
5 **Lead**

L

Location : **Chapel Entry, 1st Flr, North Side**
Approximate Dimensions : **w15" x 51"h (0.38 x 1.29m)**
Consisting of a single panel

Window L

Interior Condition



Exterior Condition

GLASS

MAIN Panel no breaks or fractures

LEAD

MAIN Panel satisfactory

BOWING

MAIN Panel none

PROTECTIVE COVERINGS

MAIN Panel Plexiglas

NOTE

SUPPORTING BARS & TIES

All bars and ties are in satisfactory condition.

SASH

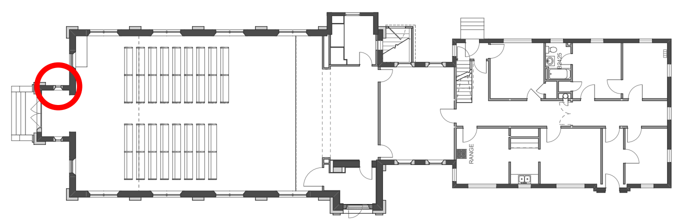
Interior and exterior sash generally satisfactory.

ARTIST/STUDIO Unknown

DATE INSTALLED Unknown

ADDITIONAL NOTES

This small window in the Chapel entry (2 of 2) appears to be by the same studio as the double portrait windows.



1st Floor

KEY

Window damage in supporting photographs indicated as follows:

1. Broken painted piece
2. Broken piece
3. Supporting Bar/Ties
4. Fracture
5. Lead

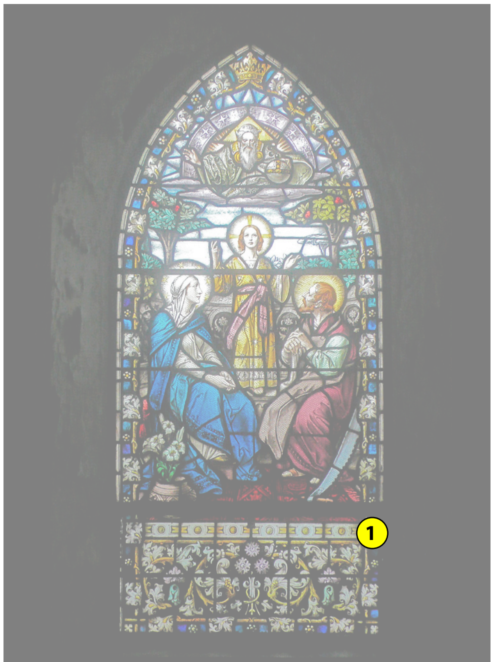
M

Location : **Vestibule, 1st Flr, North Side, 1 of 2**

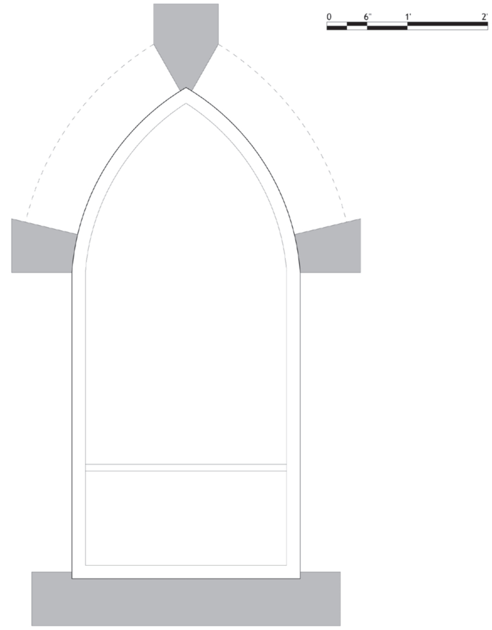
Approximate Dimensions : **w33" x 72"h (0.83 x 1.82m)**

Consisting of a single large panel with ventilator below

Window M



Interior Condition



Exterior Condition

GLASS

MAIN Panel	no breaks or fractures
VENT Panel	(1) broken painted piece

LEAD

MAIN Panel	satisfactory
VENT Panel	satisfactory

BOWING

MAIN Panel	none
VENT Panel	bowing (monitor)

PROTECTIVE COVERINGS

MAIN Panel	Glass and Plexiglas
VENT Panel	Glass (cracked) and Plexiglas

NOTE

SUPPORTING BARS & TIES

All bars and ties are in satisfactory condition

SASH

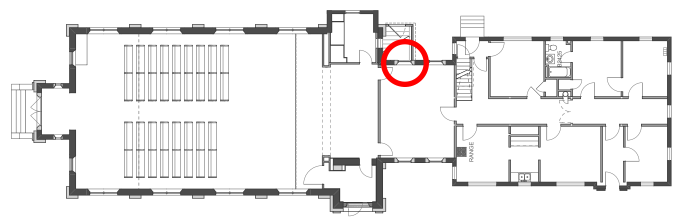
Exterior ventilator- minor rust

ARTIST/STUDIO Unknown

DATE INSTALLED Unknown

ADDITIONAL NOTES

The four "English" style painted windows in the vestibule may have been fabricated by the J and R Lamb Studios. The studio was founded in 1875 by two British born brothers in New York City. The Lamb studios specialized in ecclesiastical works. They did not normally sign their windows.



1st Floor

KEY

Window damage in supporting photographs indicated as follows:

1. Broken painted piece
2. Broken piece
3. Supporting Bar/Ties
4. Fracture
5. Lead

N

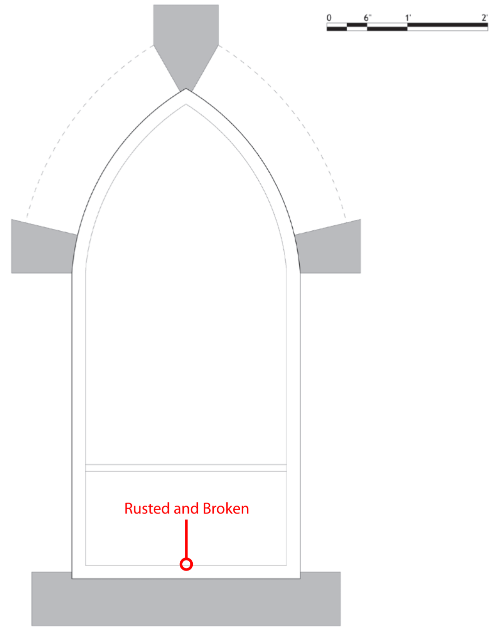
Location : **Vestibule, 1st Flr, North Side, 2 of 2**

Approximate Dimensions : **w33" x 72"h (0.83 x 1.82m)**

Consisting of a single large panel with ventilator below

Window N

Interior Condition



Exterior Condition

GLASS

MAIN Panel	no breaks or fractures
VENT Panel	no breaks or fractures

LEAD

MAIN Panel	satisfactory
VENT Panel	satisfactory; a few breaks in the lead

BOWING

MAIN Panel	none
VENT Panel	minor bowing (monitor)

PROTECTIVE COVERINGS

MAIN Panel	Glass
VENT Panel	Glass (broken)

NOTE

SUPPORTING BARS & TIES

All bars and ties are in satisfactory condition

SASH

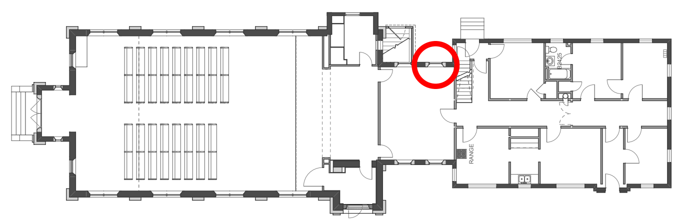
Exterior ventilator rusted and broken at bottom.

ARTIST/STUDIO Unknown

DATE INSTALLED Unknown

ADDITIONAL NOTES

The four "English" style painted windows in the vestibule may have been fabricated by the J and R Lamb Studios. The studio was founded in 1875 by two British born brothers in New York City. The Lamb studios specialized in ecclesiastical works. They did not normally sign their windows.



1st Floor

KEY

Window damage in supporting photographs indicated as follows:

1 Broken painted piece
2 Broken piece
3 Supporting Bar/Ties
4 Fracture
5 Lead

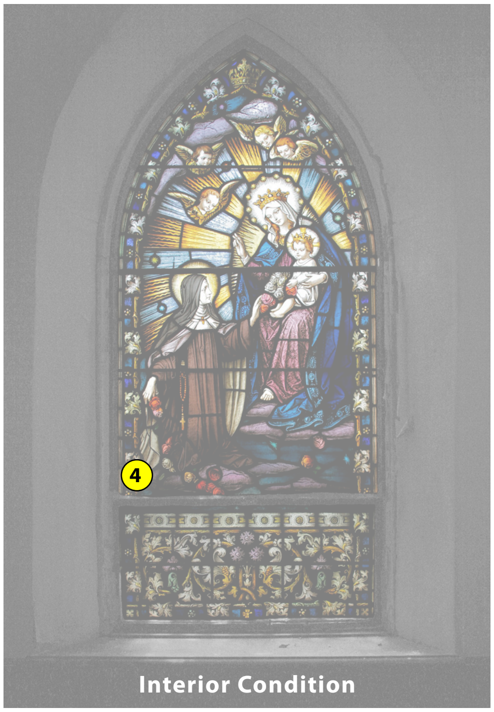
O

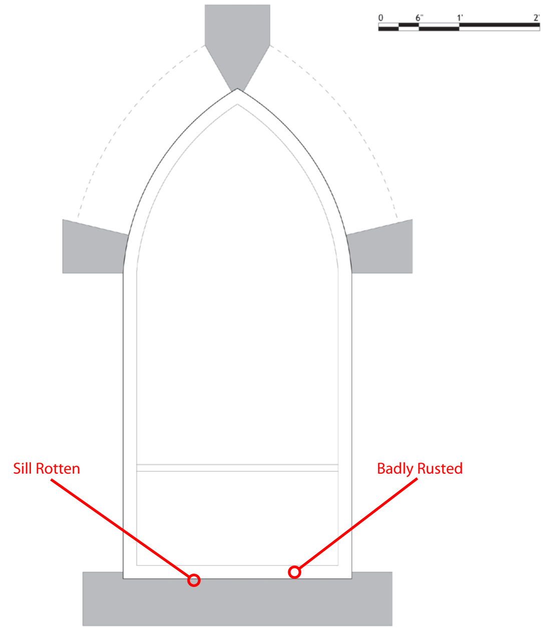
Location : **Vestibule, 1st Flr, South Side, 1 of 2**

Approximate Dimensions : **w33" x 72"h (0.83 x 1.82m)**

Consisting of a single large panel with ventilator below

Window O





Exterior Condition

GLASS

MAIN Panel	no breaks, (1) fracture
VENT Panel	no breaks or fractures

LEAD

MAIN Panel	satisfactory
VENT Panel	satisfactory

BOWING

MAIN Panel	minor bowing at bottom (monitor)
VENT Panel	satisfactory

PROTECTIVE COVERINGS

MAIN Panel	Plexiglas
VENT Panel	Glass (broken) and Plexiglas

NOTE

SUPPORTING BARS & TIES

Top bar main panel has broken ties; window loose.

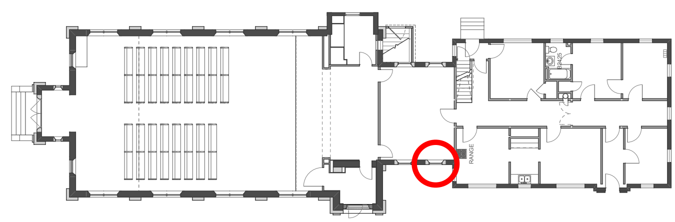
SASH

Exterior ventilator badly rusted at bottom.

ARTIST/STUDIO	Unknown
DATE INSTALLED	Unknown

ADDITIONAL NOTES

The four "English" style painted windows in the vestibule may have been fabricated by the J and R Lamb Studios. The studio was founded in 1875 by two British born brothers in New York City. The Lamb studios specialized in ecclesiastical works. They did not normally sign their windows.



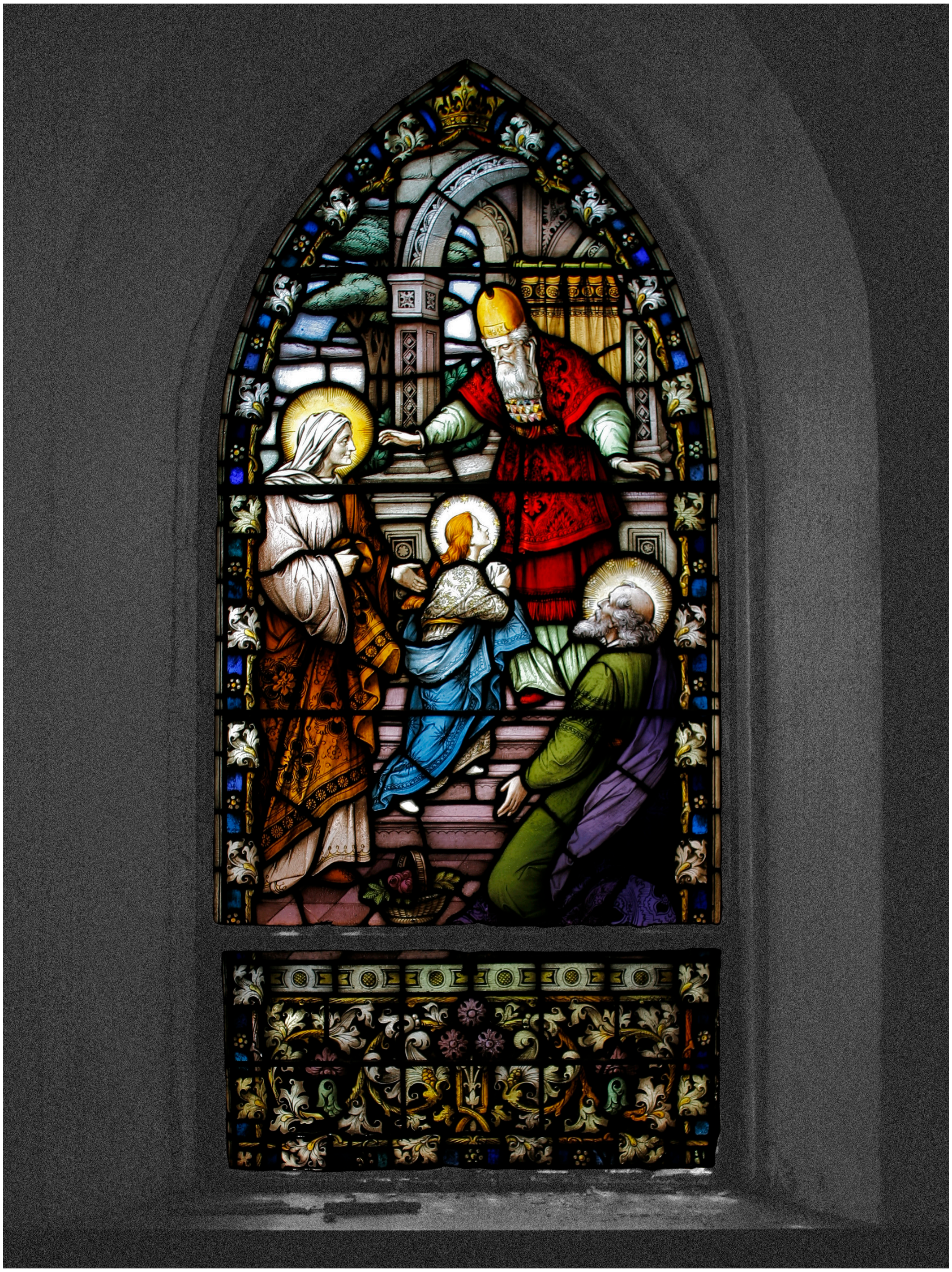
1st Floor

KEY

Window damage in supporting photographs indicated as follows:

1. Broken painted piece
2. Broken piece
3. Supporting Bar/Ties
4. Fracture
5. Lead

P

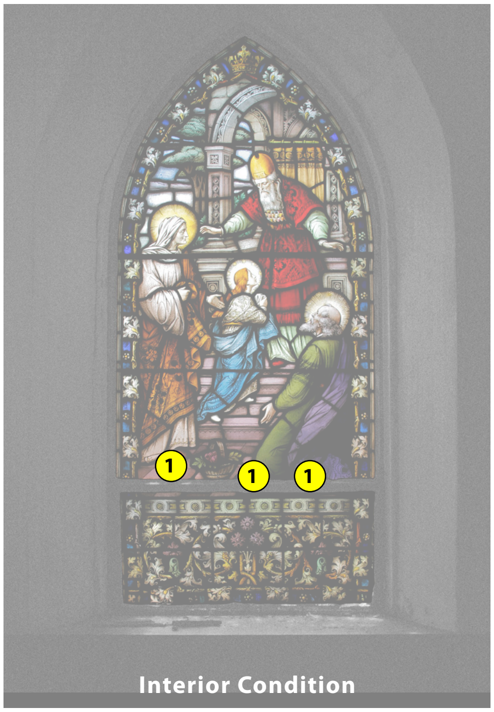


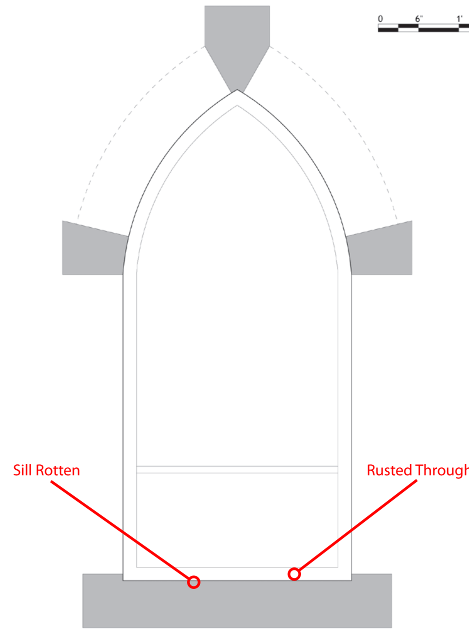
Location : **Vestibule, 1st Flr, South Side, 2 of 2**

Approximate Dimensions : **w33" x 72"h (0.83 x 1.82m)**

Consisting of a single large panel with ventilator below

Window P





Exterior Condition

GLASS

MAIN Panel	(3) breaks in painted glass
VENT Panel	no breaks or fractures

LEAD

MAIN Panel	satisfactory
VENT Panel	poor condition overall (relead)

BOWING

MAIN Panel	severe bowing upper section (monitor/repair)
VENT Panel	Severely bowed (monitor/repair)

PROTECTIVE COVERINGS

MAIN Panel	Plexiglas
VENT Panel	Glass (broken) and Plexiglas

NOTE

SUPPORTING BARS & TIES

All bars and ties are in satisfactory condition.

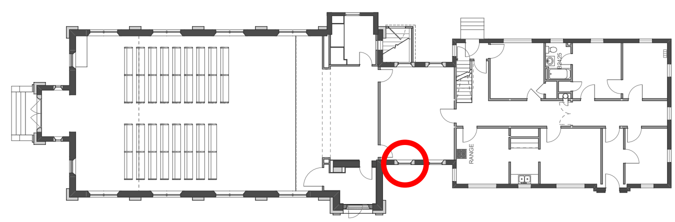
SASH

Ventilator rusted through at bottom (replace); exterior sash damp and rotting, upper right corner.

ARTIST/STUDIO	Unknown
DATE INSTALLED	Unknown

ADDITIONAL NOTES

The four "English" style painted windows in the vestibule may have been fabricated by the J and R Lamb Studios. The studio was founded in 1875 by two British born brothers in New York City. The Lamb studios specialized in ecclesiastical works. They did not normally sign their windows.



1st Floor

KEY

Window damage in supporting photographs indicated as follows:

1 Broken painted piece
2 Broken piece
3 Supporting Bar/Ties
4 Fracture
5 Lead

Q

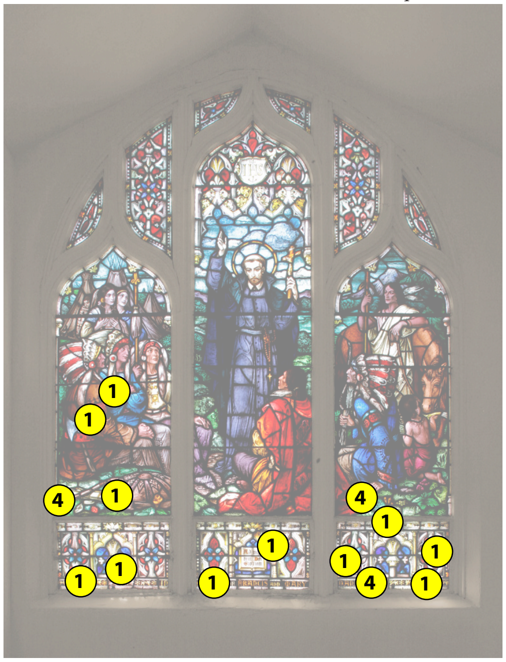

IHS
Ad maio-
rem Dei
Gloriam
IN
MEMORY OF FRANCIS AND MARY
DANA.

Location : **Choir Loft, 2nd Flr, West Side**

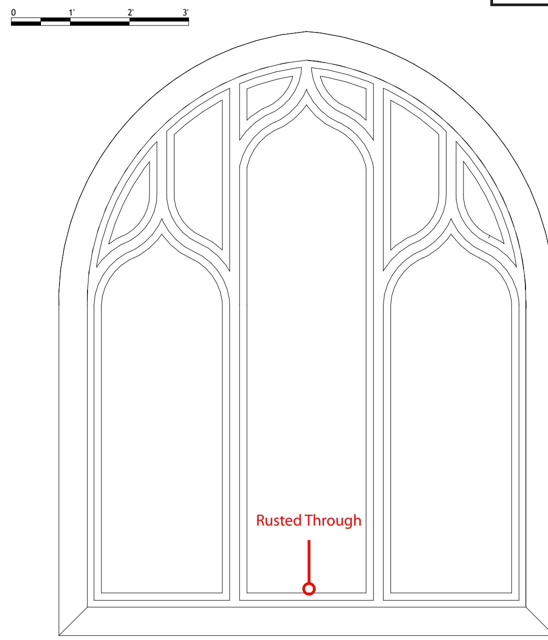
Approximate Dimensions : **w89" x 111"h (2.26 x 2.81m)**

Consisting of a single large panel with ventilator below and two small panels at the apex

Window Q



Interior Condition



Exterior Condition

GLASS

	CENTER panel	LEFT panel	RIGHT panel
MAIN Panel	no breaks or fractures	(3) broken painted pieces; (1) fracture	(1) fracture
VENT Panel	(2) breaks in painted glass	(2) broken painted pieces	(4) broken painted pieces; (1) fracture

LEAD

	CENTER panel	LEFT panel	RIGHT panel
MAIN Panel	satisfactory	satisfactory	satisfactory
VENT Panel	satisfactory, a few minor breaks	breaks where bowed	a few minor breaks

BOWING

	CENTER panel	LEFT panel	RIGHT panel
MAIN Panel	significant bowing in "halo" area (monitor/repair)	minor bowing in lower section	none
VENT Panel	minor bowing (monitor)	bowing (repair)	none

PROTECTIVE COVERINGS

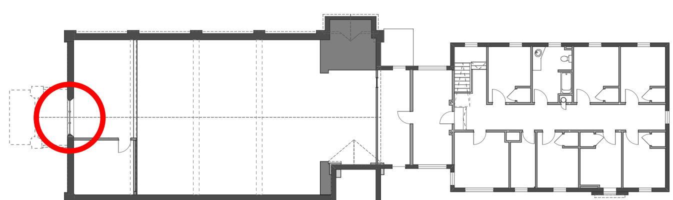
	CENTER panel	LEFT panel	RIGHT panel
MAIN Panel	Plexiglas (broken)	Glass and Plexiglas (cracked)	Plexiglas
VENT Panel	Glass and Plexiglas (cracked)	Glass (cracked)	Plexiglas

SUPPORTING BARS & TIES

	CENTER panel	LEFT panel	RIGHT panel
	All bars and ties are in satisfactory condition except for one tie in the center of the ventilator.	satisfactory	satisfactory

SASH

	CENTER panel	LEFT panel	RIGHT panel
	Interior/exterior sash generally satisfactory except for bottom of ventilator which is rusted through (repair).	interior sash generally satisfactory	interior sash generally satisfactory



2nd Floor

KEY

Window damage in supporting photographs indicated as follows:

1 **Broken painted piece**
2 **Broken piece**
3 **Supporting Bar/Ties**
4 **Fracture**
5 **Lead**

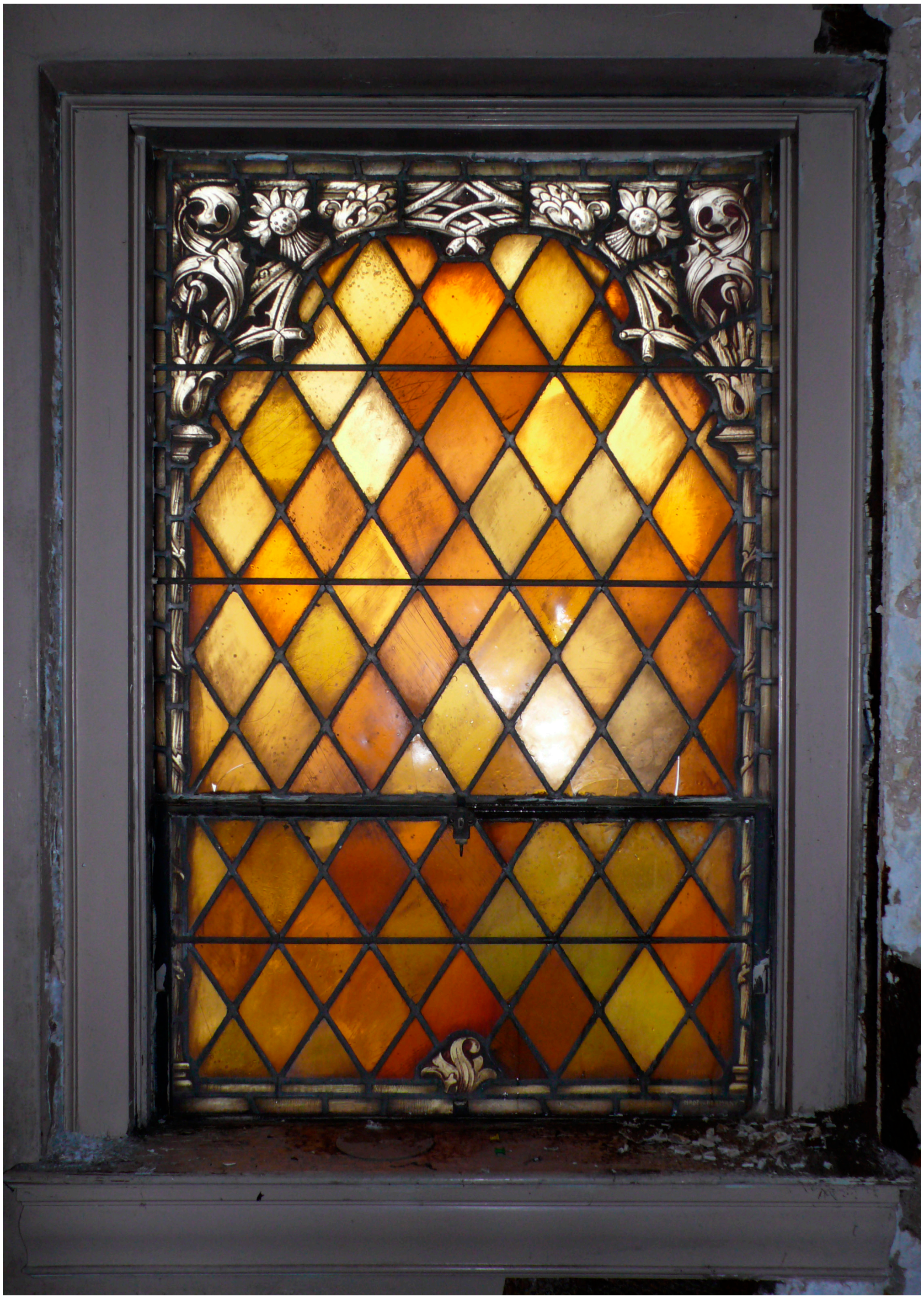
ARTIST/STUDIO Franz Mayer Studio, Munich, Germany

DATE INSTALLED Unknown

ADDITIONAL NOTES

A broken, single sheet of Plexiglas only partially covers the lower part of the main panel and the ventilator. This should be remedied immediately. This is the largest stained glass window. The largest of the small windows above left is missing sash putty on the center side; its opposite companion on the right is slightly bowed and should be monitored. Lead is satisfactory on all of these windows, and they all have glass and Plexiglas protective coverings. The right ventilator window has been repaired badly in the left/center area.

R

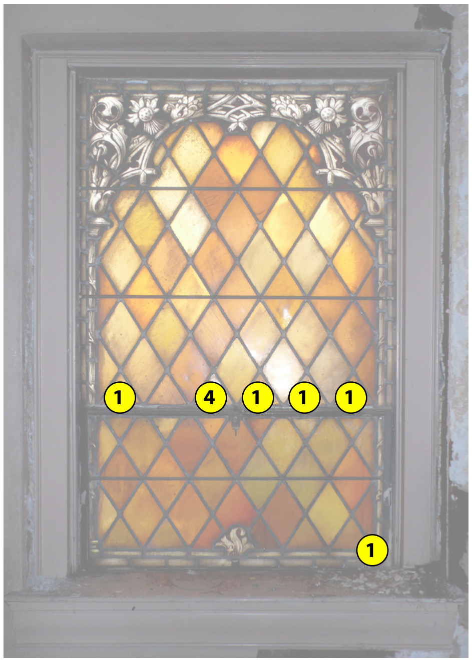


Location : **Lantern Rm, 2nd Flr, South Side**

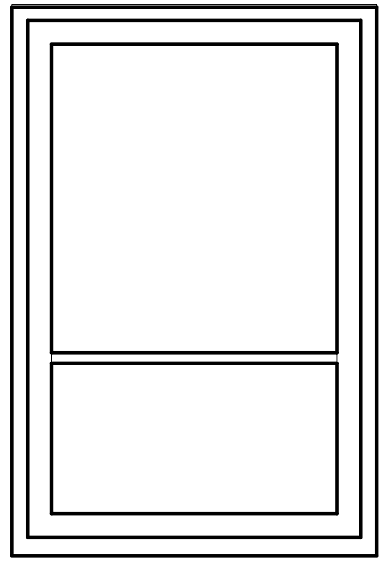
Approximate Dimensions : **w34" x 52"h (0.86 x 1.32m)**

Consisting of a single large panel with ventilator below

Window R



Interior Condition



Exterior Condition

GLASS

MAIN Panel	(4) breaks in painted glass; (1) fracture
VENT Panel	(1) break in painted glass

LEAD

MAIN Panel	some damage to lead at bottom
VENT Panel	satisfactory; minor break at corner

BOWING

MAIN Panel	satisfactory
VENT Panel	satisfactory

PROTECTIVE COVERINGS

MAIN Panel	None
VENT Panel	Plexiglas

NOTE

SUPPORTING BARS & TIES

All bars and ties are in satisfactory condition.

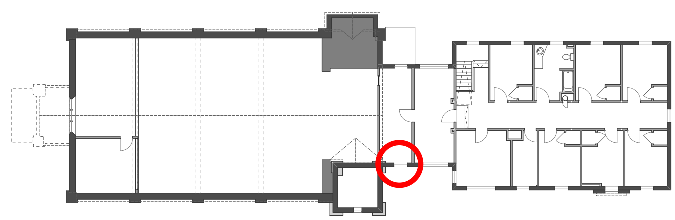
SASH

Interior and exterior sash generally satisfactory

ARTIST/STUDIO	Franz Mayer Studio, Munich, Germany
DATE INSTALLED	Unknown

ADDITIONAL NOTES

One of three windows by Franz Mayer Studios, Munich, Germany.



2nd Floor

KEY

Window damage in supporting photographs indicated as follows:

1 Broken painted piece
2 Broken piece
3 Supporting Bar/Ties
4 Fracture
5 Lead

S

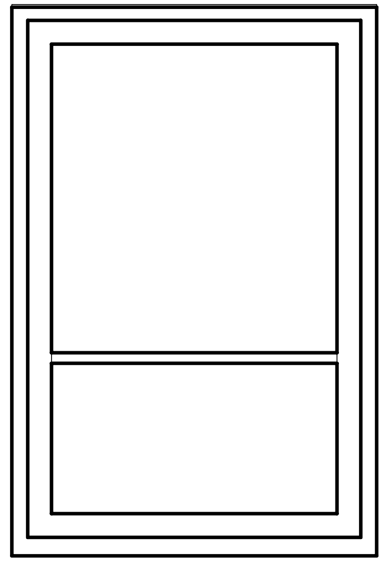
Location : **Lantern Rm, 2nd Flr, North Side**

Approximate Dimensions : **w34" x 52"h (0.86 x 1.32m)**

Consisting of a single large panel with ventilator below

Window S

Interior Condition



Exterior Condition

GLASS

MAIN Panel	no breaks or fractures
VENT Panel	no breaks or fractures

LEAD

MAIN Panel	satisfactory
VENT Panel	satisfactory

BOWING

MAIN Panel	satisfactory
VENT Panel	satisfactory

PROTECTIVE COVERINGS

MAIN Panel	Plexiglas
VENT Panel	Plexiglas

NOTE

SUPPORTING BARS & TIES

All bars and ties are in satisfactory condition.

SASH

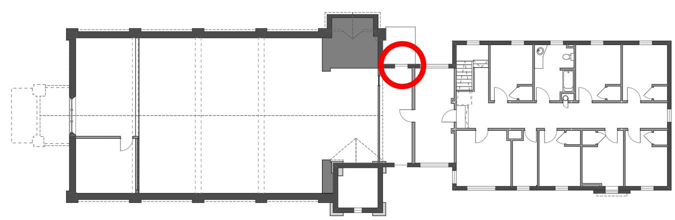
Interior and exterior sash generally satisfactory.

ARTIST/STUDIO Franz Mayer Studio, Munich, Germany

DATE INSTALLED Unknown

ADDITIONAL NOTES

One of three windows by Franz Mayer Studios, Munich, Germany.



2nd Floor

KEY

Window damage in supporting photographs indicated as follows:

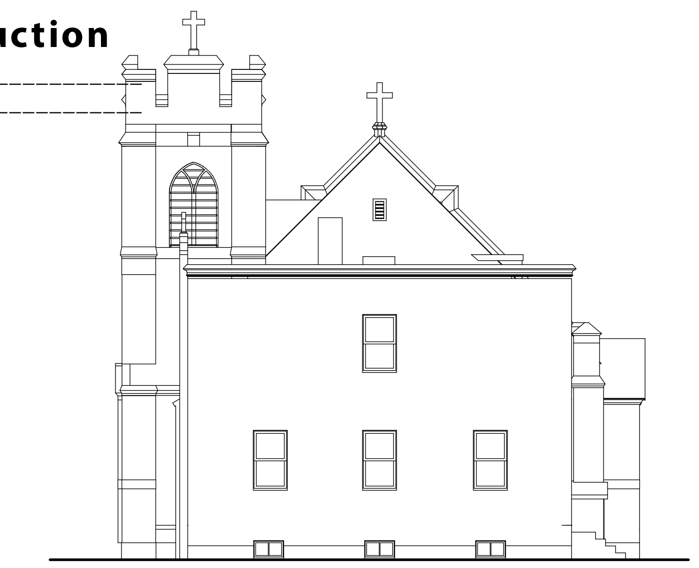
1 Broken painted piece
2 Broken piece
3 Supporting Bar/Ties
4 Fracture
5 Lead

PRELIMINARY

Not For Construction

Submitted ____________________

Approved ____________________



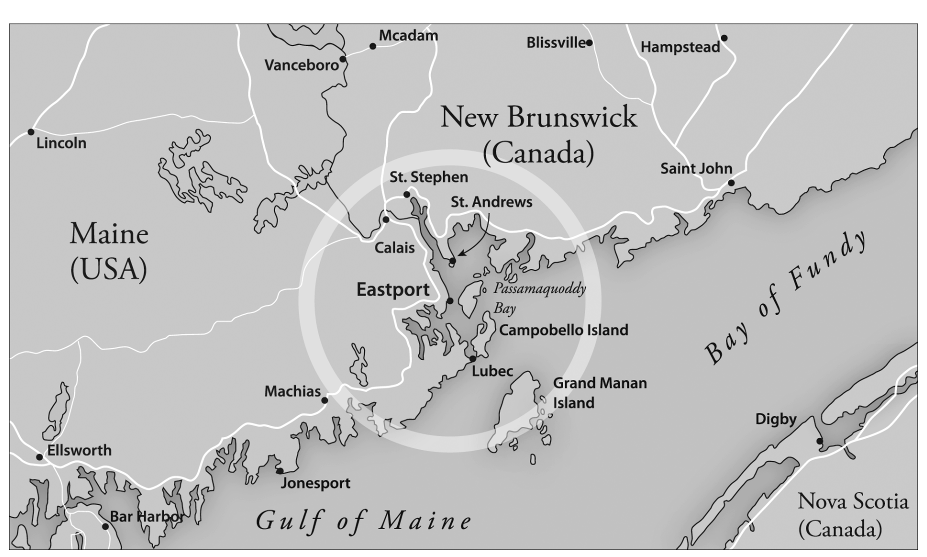
EAST Elevation *scale 1/16" = 1'-0"*

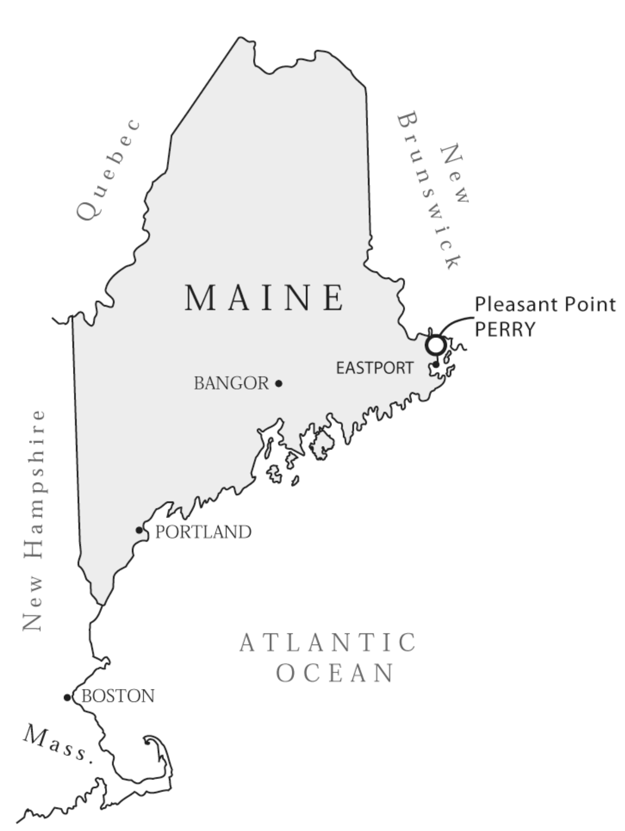
NORTH Elevation *scale 1/16" = 1'-0"*

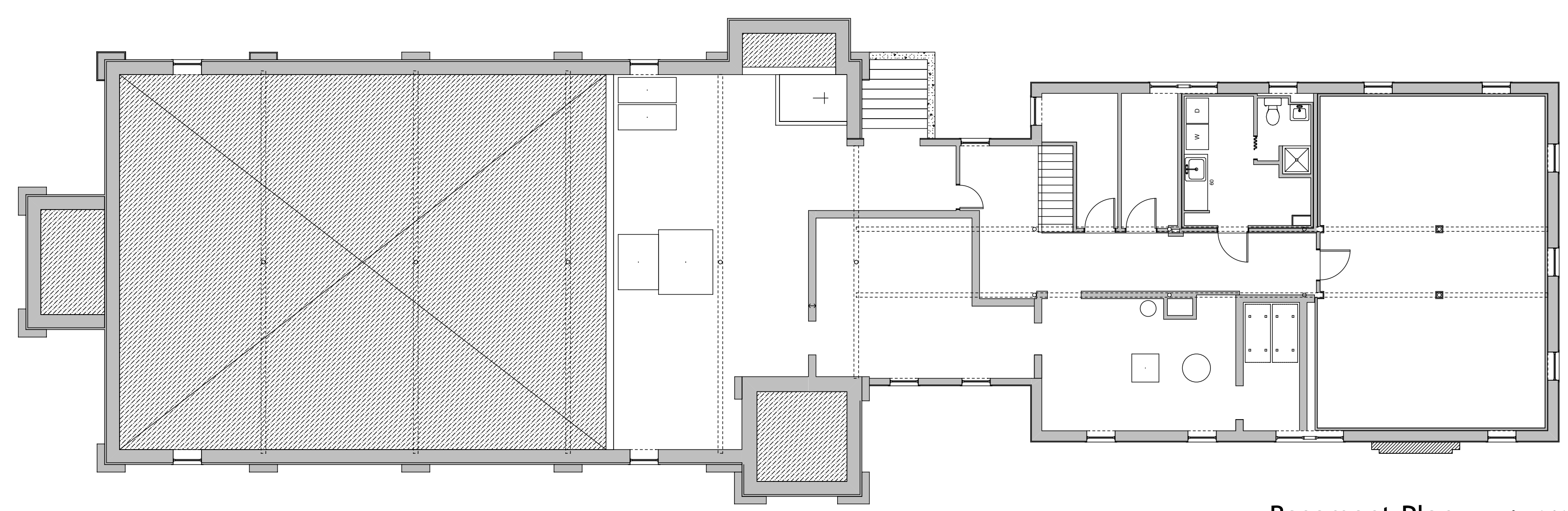
WEST Elevation *scale 1/16" = 1'-0"*

SITE *scale 1/64" = 1'-0"*

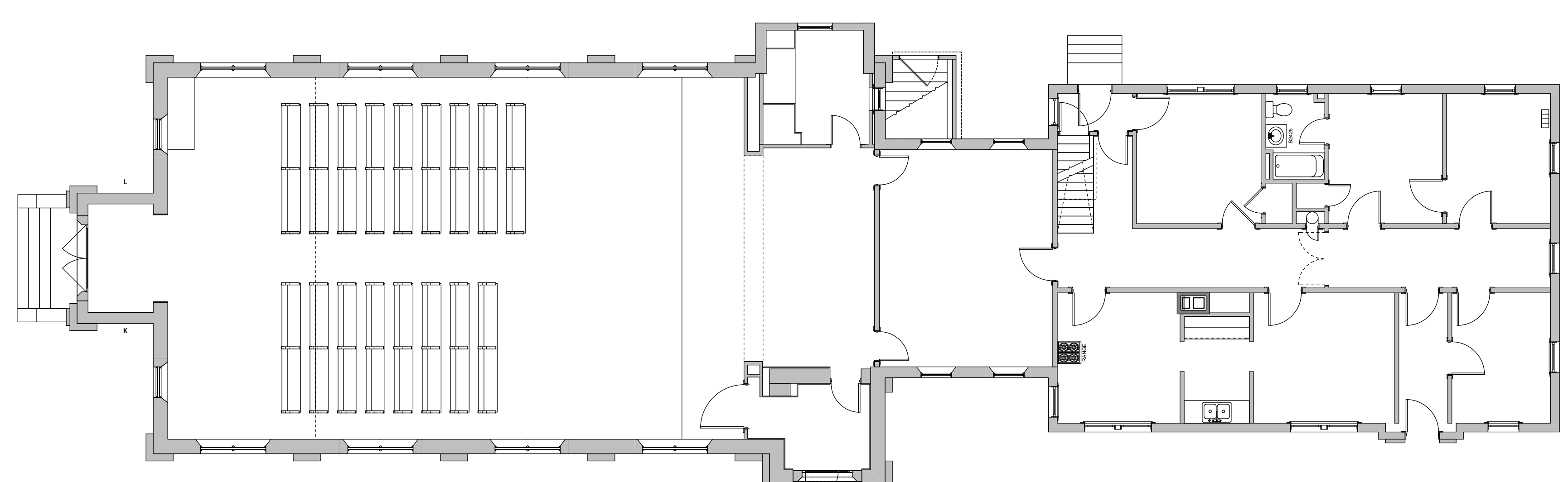
SOUTH Elevation *scale 1/16" = 1'-0"*



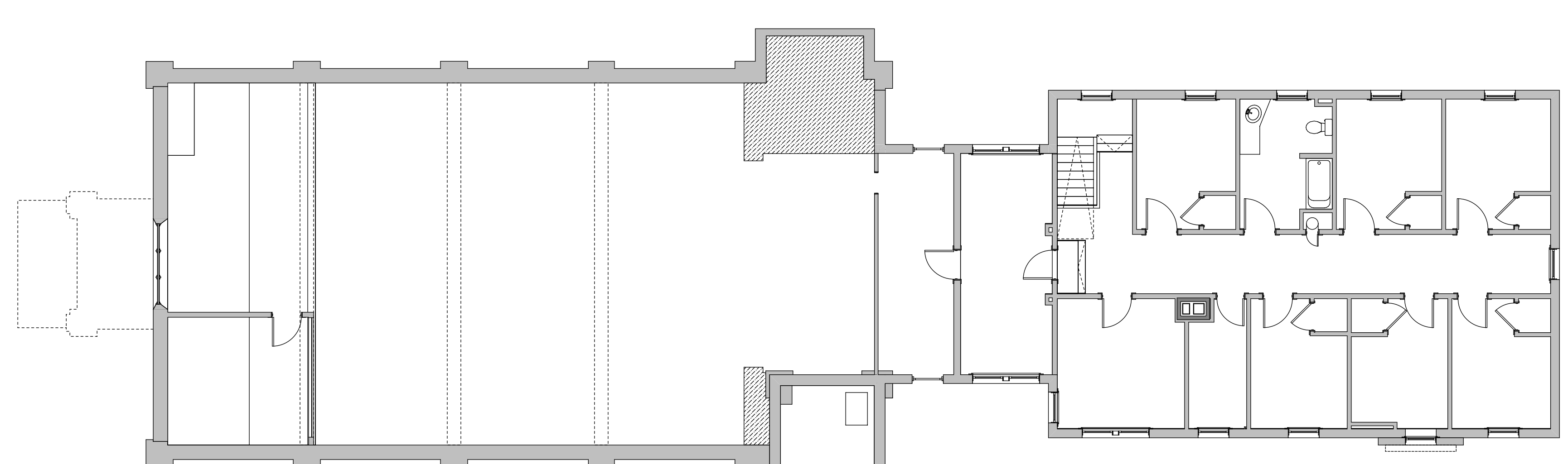




Basement Plan *scale 1/16" = 1'-0"*



Main Floor Plan *scale 1/16" = 1'-0"*



2nd Floor Plan *scale 1/16" = 1'-0"*

Historic Structure Report for St. Anne's Church

National Park Service, Historic Preservation Fund Grant

 # 23-11-NA-2314

St. Anne's Church, Bayview Drive, Pleasant Point, Perry, ME 04667

Built : 1928 | Contractor : T.F. Cunningham & Sons, Portland, ME

Foreman : Thomas St. Peters, Portland | Mason : C.J. Hamilton, Eastport

Project Team

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Passamaquoddy Tribal Government
Clayton Cleaves / Governer
Ken Pointer / Lt Governor
Maggie Dana / Chief Financial Officer
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(207) 853-2600

Sheet Index

C1	Cover Sheet
A1.0	Bsmt & Main Flr PLANS
A1.1	2nd Flr & Roof PLANS
A2.0	Elevations W/S
A2.1	Elevations N/E
A3.0	Sections 1-4
A3.1	Sections 5-7
A7.0	3D Views

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St. Anne's Church and Convent

Pleasant Point Indian Reservation, Perry, Maine 04106

Cover Sheet

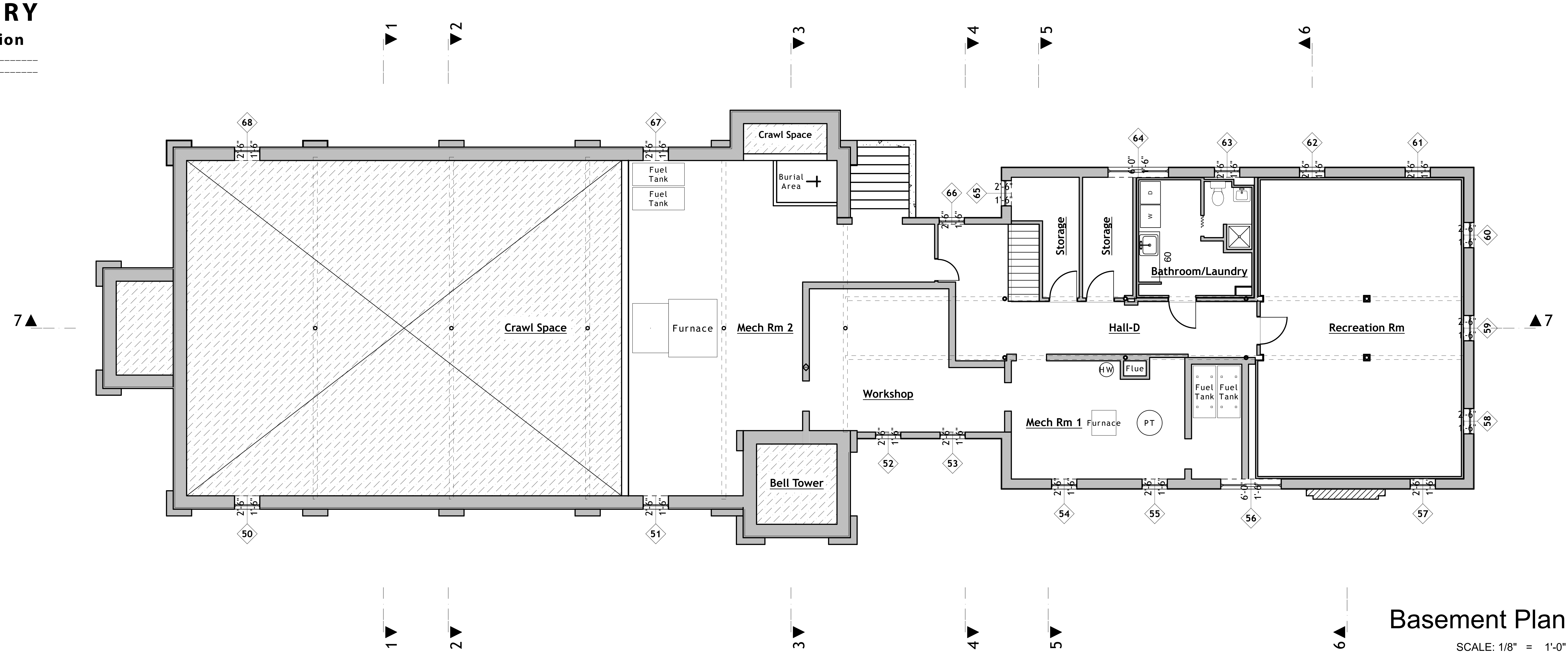
C1

PRELIMINARY

Not For Construction

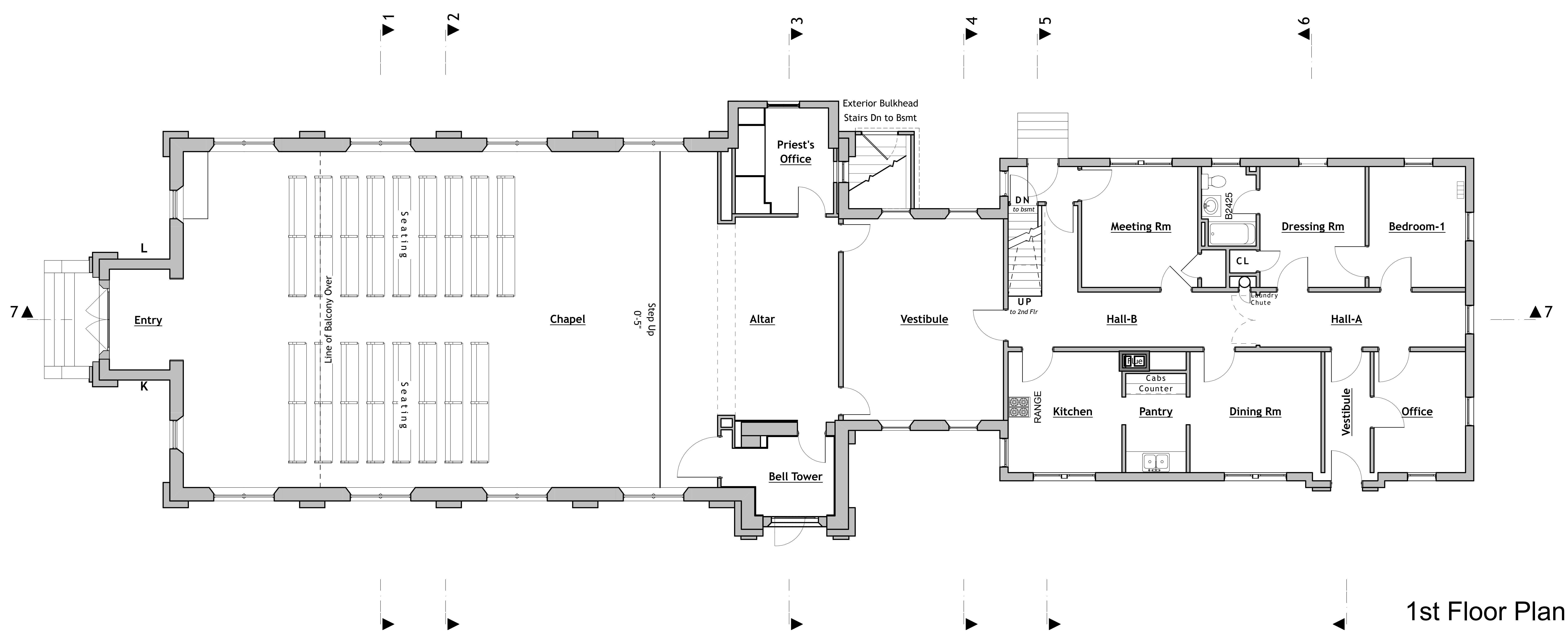
Submitted ____________

Approved ____________



Basement Plan

SCALE: 1/8" = 1'-0"



1st Floor Plan

SCALE: 1/8" = 1'-0"

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St. Anne's Church and Convent

Pleasant Point Indian Reservation, Perry, Maine 04106

PLANS-Bsmt & Main

A1.0

PRELIMINARY

Not For Construction

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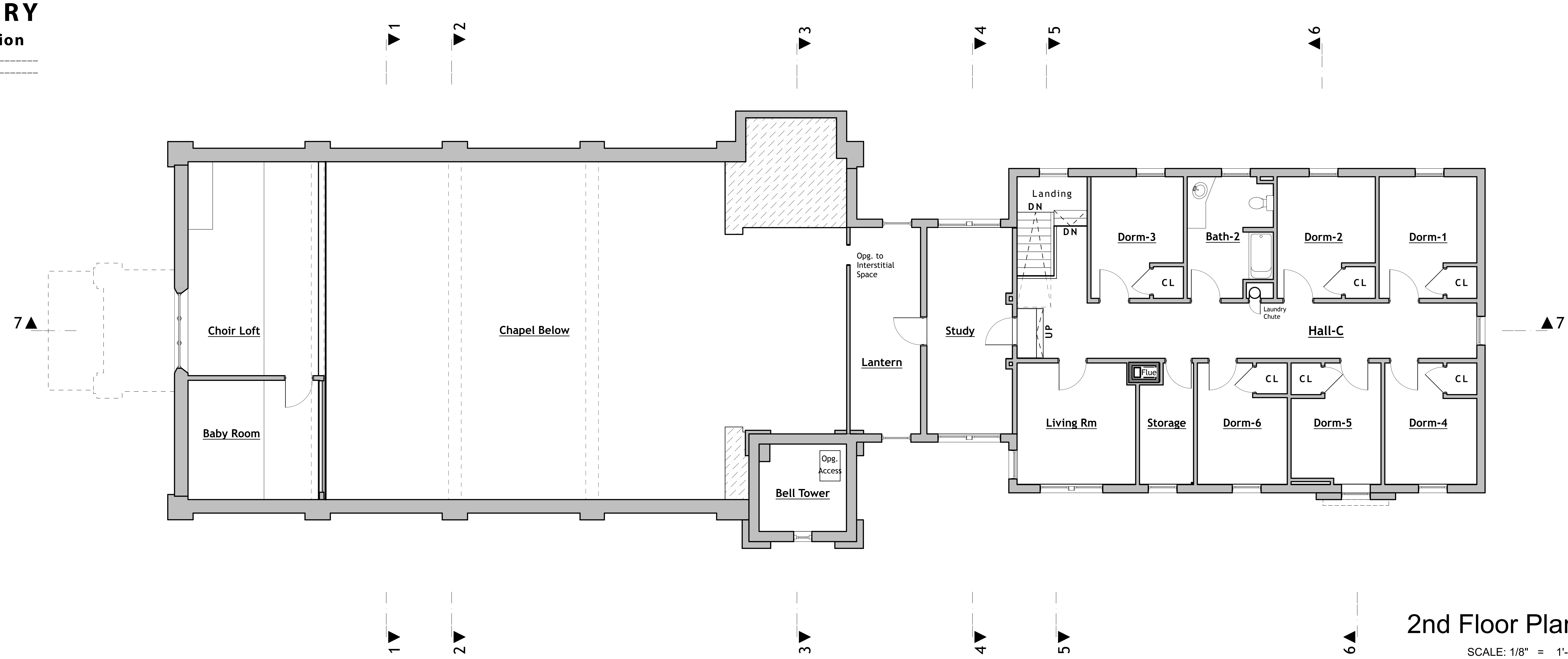
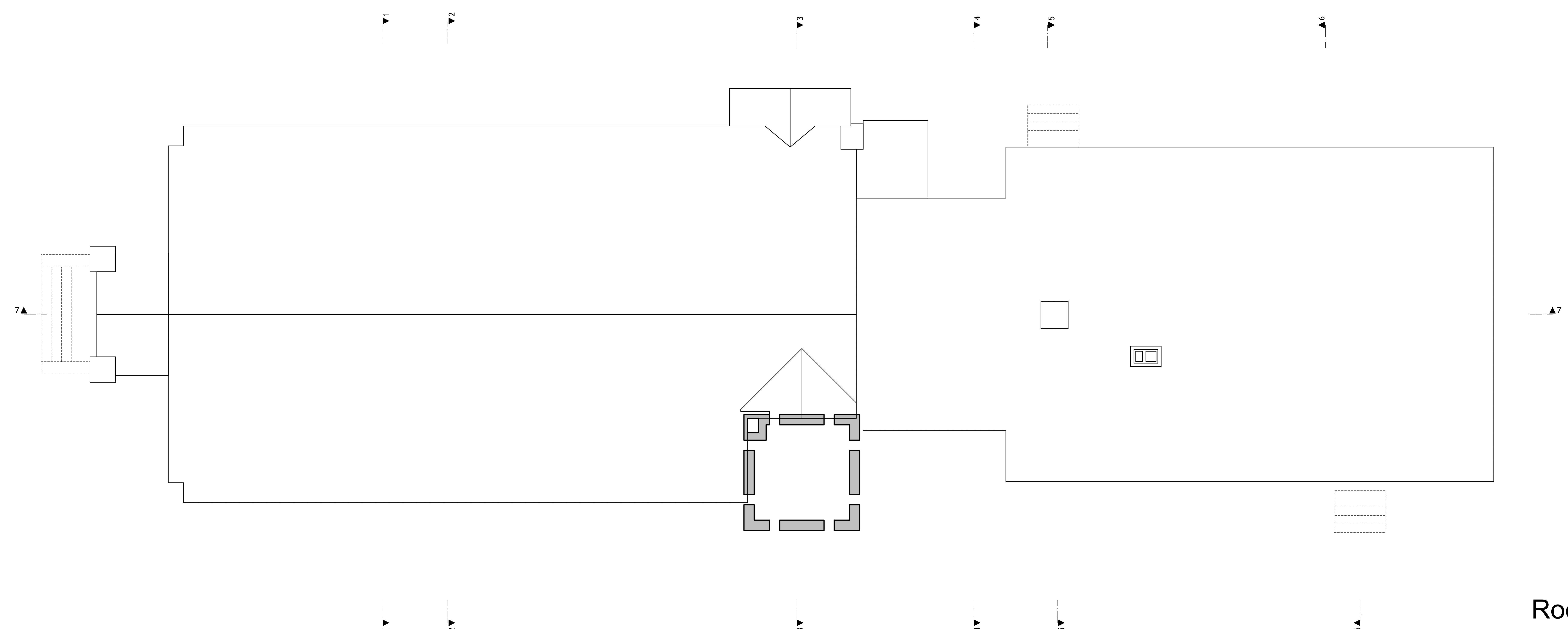
Approved ________________



2nd Floor Plan

SCALE: 1/8" = 1'-0"



Roof

SCALE: 1/8" = 1'-0"

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St. Anne's Church and Convent

Pleasant Point Indian Reservation, Perry, Maine 04106

Plans-2nd & Roof

A1.1

PRELIMINARY

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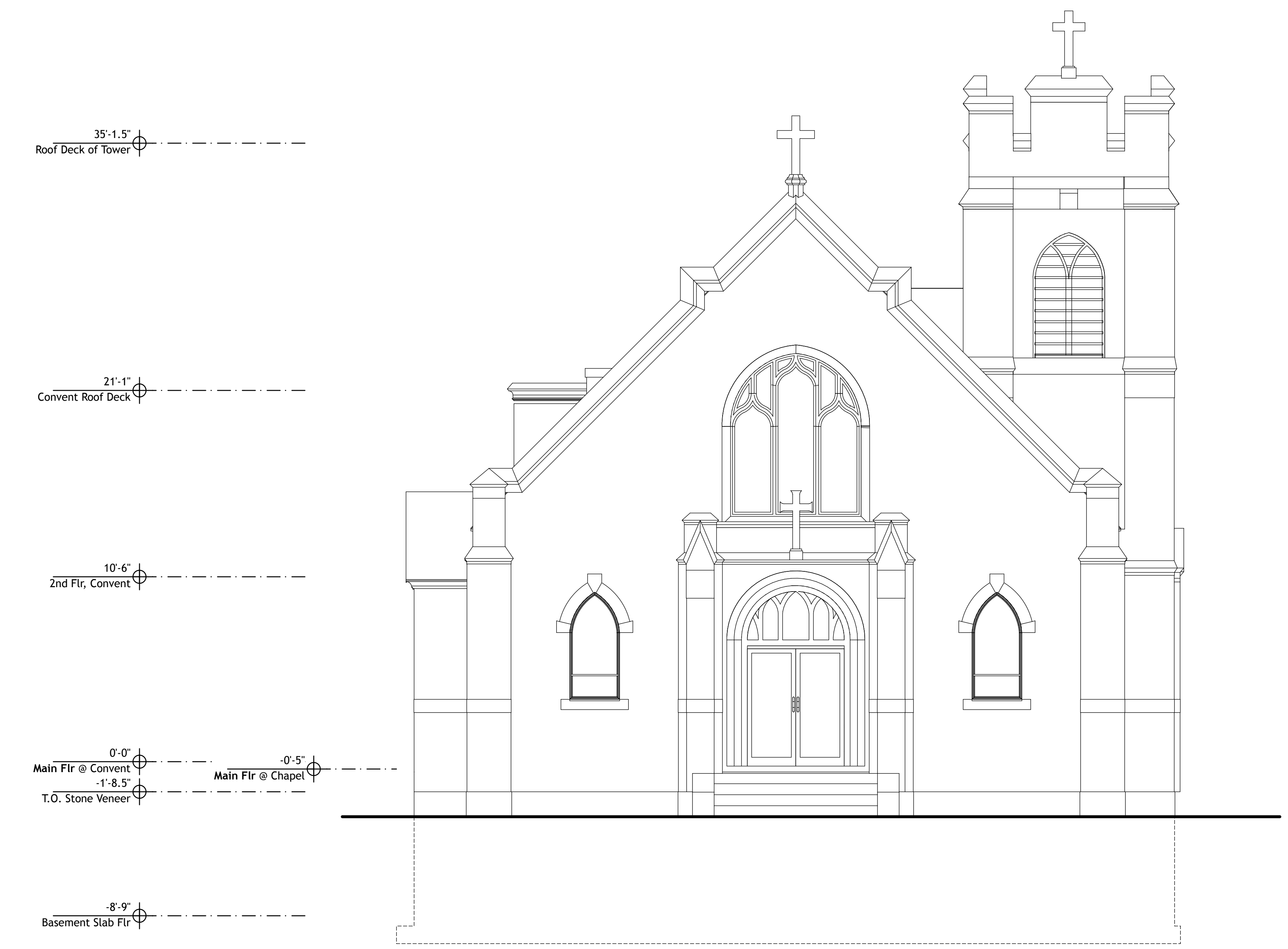
Approved ____________________



WEST Elevation

SCALE: 1/8" = 1'-0"

SOUTH Elevation

SCALE: 1/8" = 1'-0"

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St. Anne's Church and Convent

Pleasant Point Indian Reservation, Perry, Maine 04106

Elevations W/S

A2.0

PRELIMINARY

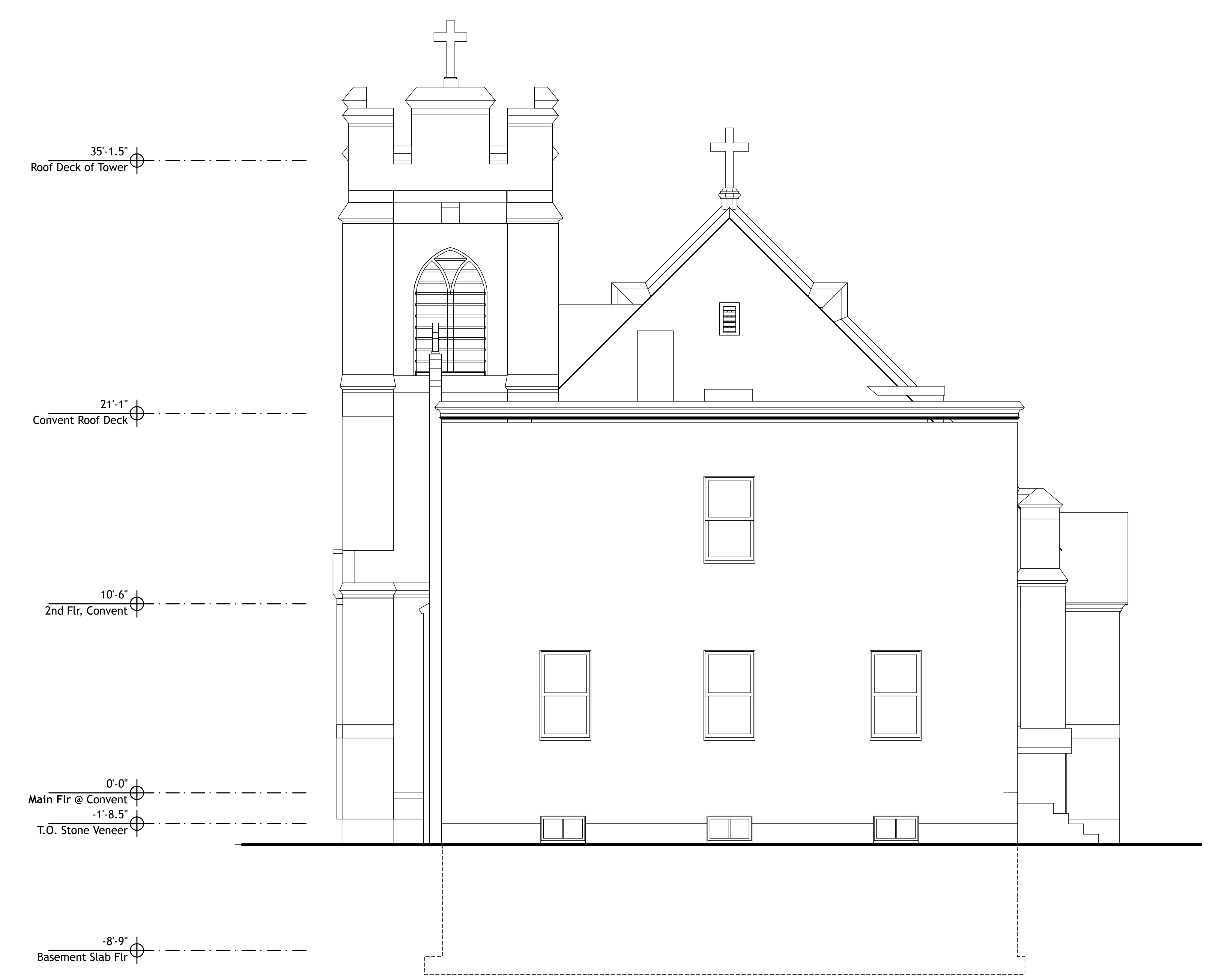
Not For Construction

Submitted ____________________

Approved ____________________

NORTH Elevation

SCALE: 1/8" = 1'-0"



EAST Elevation

SCALE: 1/8" = 1'-0"

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St. Anne's Church and Convent

Pleasant Point Indian Reservation, Perry, Maine 04106

Elevations N/E

A2.1

PRELIMINARY

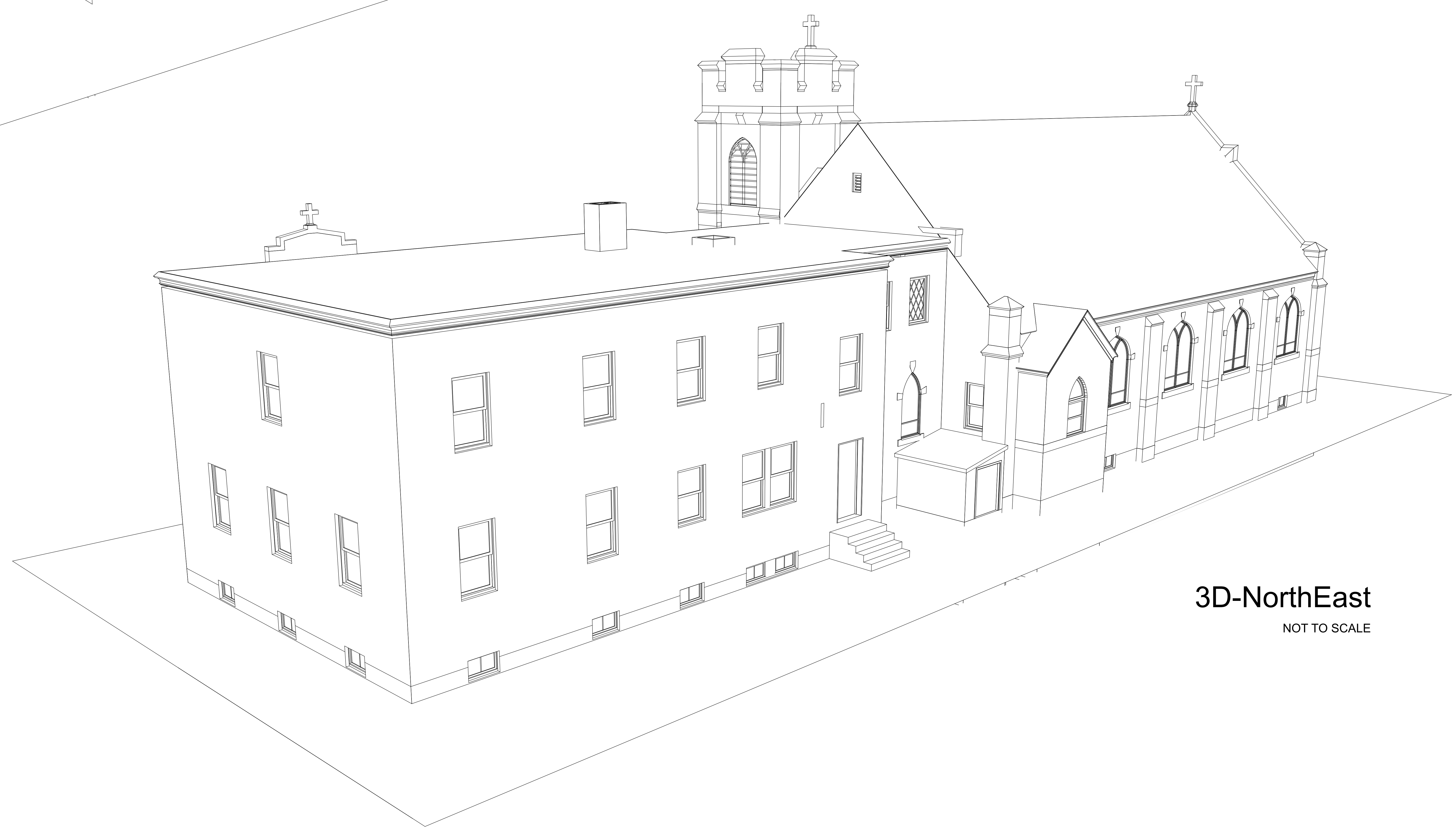
Not For Construction

Submitted ____________

Approved ____________

3D-SouthWest

NOT TO SCALE



3D-NorthEast

NOT TO SCALE

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Views

A7.0